The **essential** magazine for Amiga enthusiasts

AMIGA SHOPPER

Issue **51** July 1995 **£3.99**

ARexx: Unleash your Amiga's hidden power!

Shopper**Disks**

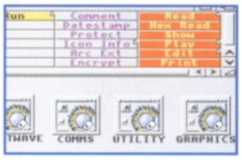
Fully-working demos of **Organiser** and **Twist 2**

Perfect Print

We roadtest the best-value new printers around. Which one is right for *your* Amiga?

Amiga saved! p12

Shopper**Reviews**



- Directory Opus 5 is an incredibly powerful and well-designed file manager program.
- Get connected in style with HiSoft's Termite.
- AS went to White Knight to test Broadcaster Elite, their broadcast-quality video-editing system.
- Solve your corruption problems with DiskSalv 3.
- Open up a whole new world of possibilities with the Hi-Q PowerStation.
- Re-live the fifties with Diner objects for LightWave.
- Plus, two pages packed with CD-ROMs.

Shopper**Tutorials**

Photogenics
The second instalment of paintmodes.

Assembler
A couple of improvements to your lottery program and you could be in with a chance for the big prize.

DICE
Get organised and enhance your programming skills. (Assembler and DICE listings are on Coverdisk 2.)

Comms
Are you using the right software to make the most of the Internet? We tell you which applications are the best to get you connected.

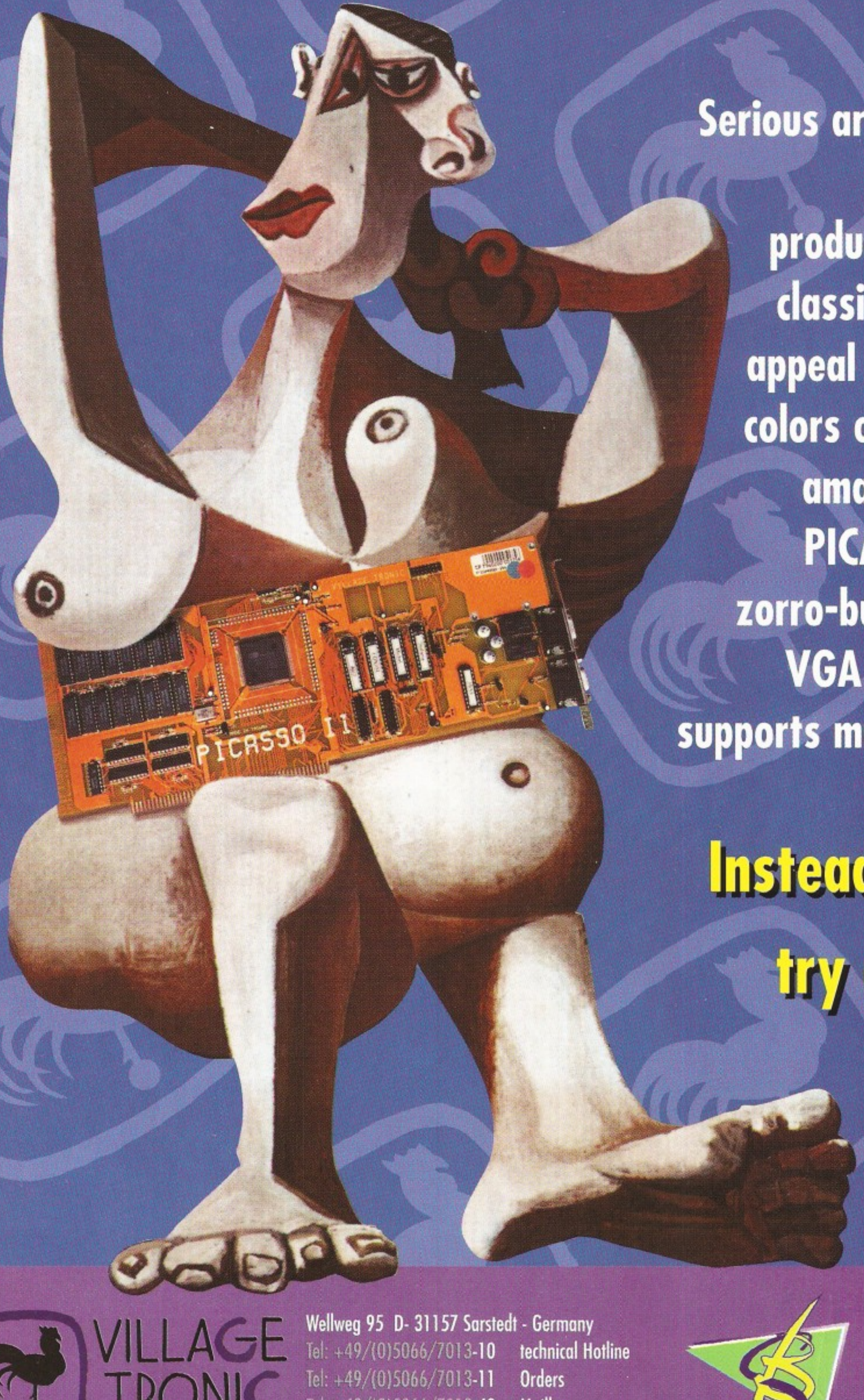
Cyberstorm 060:

The fastest Amiga in the West. The first 68060 accelerator card for the Amiga.

Plus: 12 pages of reviews!

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PICASSO II

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AMIGA SHOPPER

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51 Inside issue

With the sale of Commodore International to Escom the future of the Amiga is secure... Hurrah!

The Amiga is dead! Long live the Amiga! Or something. Now we have a brand new owner for our machine (in the shape of Escom) we can look forward to a much brighter future. A rich reward indeed for being loyal to the Amiga for the past anxiety-filled year.



And so far, the outlook is pretty positive – Escom have a factory in China lined up and ready to start manufacturing Amigas and they have said that the machines should be back on the shelves in only three months – which would be in plenty of time for those all-important Christmas sales. See page 12 for more news.

But that's enough celebrating for the moment. Let's take a look at what we have for you in this month's issue.

We have an enormous Supertest of inkjet printers, written by our DTP and word processing expert Larry Hickmott. He takes 13 of the latest printers through their paces and reports on their progress – a couple of the printers mentioned here are so new that they are still prototypes.

Toby Simpson feels that ARexx has been undervalued and underused for far too long and so, to set the balance straight, he has written a feature all about it. To find out how you can use ARexx to your best advantage – just turn to page 16.

We also have a completely packed reviews section with the new Cyberstorm 060 accelerator card, Directory Opus 5 and Broadcaster Elite amongst the products reviewed.

You'll find that Graeme has made a large contribution to this issue still, but our new technical wizard, David, got stuck in straightaway and he's been busy reviewing the Hi-Q PowerStation. He's already got lots of great ideas on how to improve the quality of our Coverdisks (not that they aren't great already).

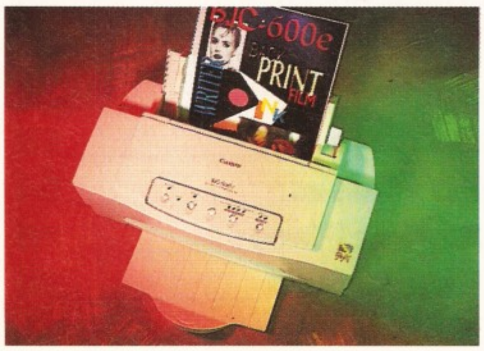
Talking of the Coverdisks, we have a treat for you this month in the shape of the brand new Organiser from Digita. Organiser is a personal organiser-style program (set up very much like a Filofax) and it will help you remember important appointments and events. Plus! On Coverdisk 2 we have Twist 2, a database program that's simply a joy to use. You'll also find the files for our DICE and Assembler tutorials on disk 2.

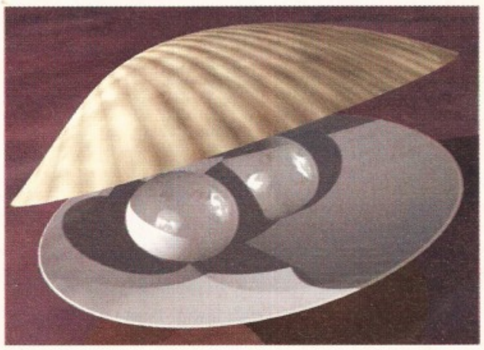
And this month we have changed our Public Domain section – we have gone back to reviewing new PD, so please keep sending in your disks to the AS office.

Enjoy! ■

Sue Grant, Editor.

Turn the page for the contents of issue **51**





The **essential** magazine for Amiga enthusiasts

AMIGA SHOPPER

Shopper**Features**

Shopper**Reviews**



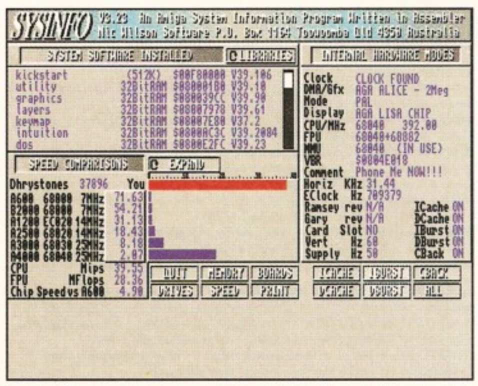
12 Commodore have finally been bought up and Escom are the proud, new owners.

Shopper**Reviews**

Shopper**Services**

Shopper**Tutorials**

Shopper**Regulars**



34 *CyberStorm 060 will rate high on the "kit-lust" factor... we're talking serious speed!*

Supertest ____ 22

The Amiga Shopper Supertest is renowned for being the most comprehensive and informative head-to-head review in the business. Every month we take a good, long look at products or programs we know are of immediate interest to our readers. We have covered programming languages, modems, CD-ROMs and genlocks in previous issues. This month, our DTP and word processing expert, **Larry Hickmott**, puts 13 of the best InkJet printers around to the test.



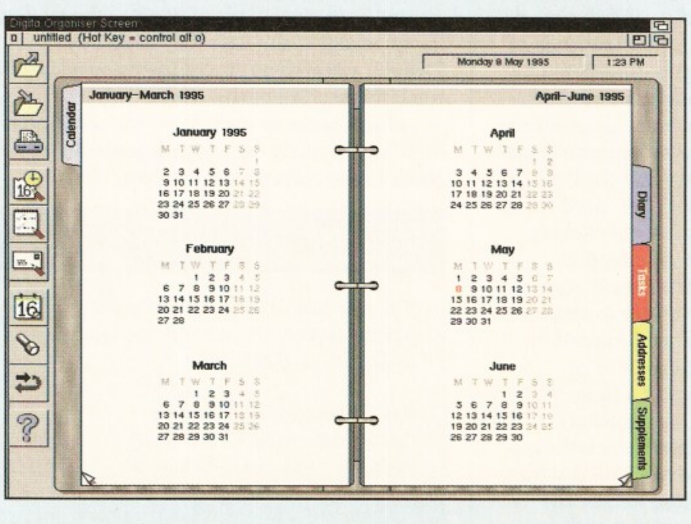
Replacing the DeskJet 520, the 540 can print in colour and black-and-white and the quality is the best we've seen from a budget-priced DeskJet.



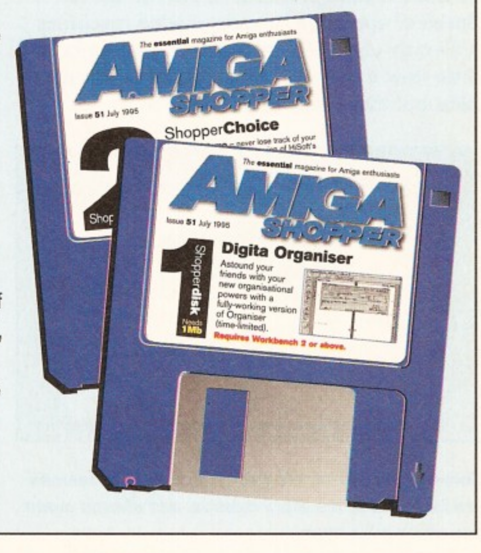
The Canon BJ-200ex is an excellent black-and-white printer that comes with a free printer-driver.



Shopper**Disks** – turn to page 6 for full instructions



On Coverdisk 1 this month we have a time-limited full version of Digita's Organiser. You can set up your own diary with its own alarm reminders to guarantee that you'll never forget that important meeting, birthday, or anniversary again. And on ShopperChoice disk 2, we have a special version of the excellent database Twist 2, as well as the tutorial files. Like organisers, databases are something every serious user will find invaluable in sorting and storing vital information.





Disk 1

Remembering birthdays, keeping track of phone numbers – even phoning your local train station. It's all just that bit easier with Digita's Organiser, as **John Parker** *explains on his guided tour of this month's Coverdisk.*

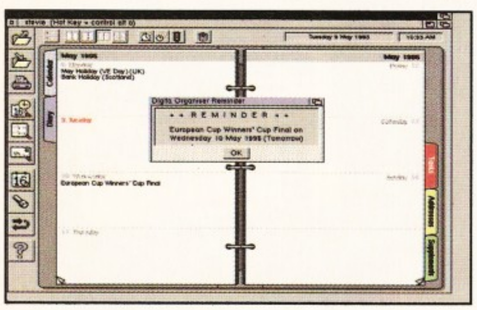
This month we have a time-limited version of Digita's Organiser for you to give a good testing. Once you've tried it out, you'll realise that your life would be a lot less cluttered and disorganised with it – it's a life-saver.

Using your Coverdisk

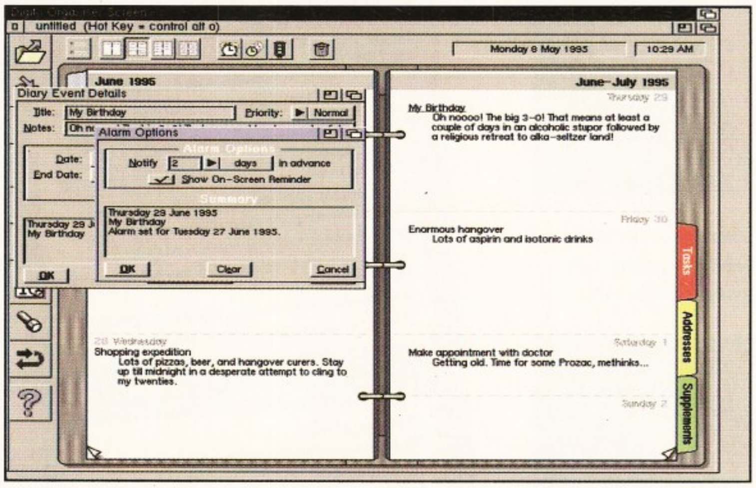
Installation is very simple and is taken care of by the standard Installer routine. Hard Drive users need only ensure that they have about 1Mb free space, choose a partition and let the Coverdisk do the rest. An Organiser drawer is created as part of installation.

Floppy-users will need two blank disks, both of which will be formatted during the procedure, so don't bother to format them in advance. The first disk created is your Organiser program disk and a second one (OrganiserExtras) is also created which contains the optional information supplements. These are pre-supplied files containing everything from BR enquiry phone numbers to gardening and stain removal tips (no kidding!) and won't be used unless you specify that one or more are to be loaded with the program. More on supplements later.

When loaded from floppy, the program should work with any 1Mb machine, but you do need to have Workbench 2.04 or above. Speed of operation on unexpanded machines with only chip RAM to work with might be a little slow if you use large diary or supplement files, but that's only to be expected.



Some of the calendar's really important occasions are included in the diary themes, and alarms mean you won't miss them.



Setting up a diary date with its own alarm reminder is easy and guarantees that you can always blame the computer when you forget.

Using Organiser

Your Coverdisk contains a time-limited version of Organiser, which means that every single feature of the package works as it does in the full version. The only limit is that Organiser will stop working as soon as your Amiga's system clock reaches July 31st 1995. This gives you plenty of time to give the program a good testing and you can always take advantage of our reader offer to get the full package with manual at a seriously silly price.

On loading, the program presents an Interface in the same colourful, well-designed style that has become familiar to thousands of Wordworth users. The screen is dominated by a large diary display with icons around the left and top left edges and the current date and time are displayed top right. Icons and mouse clicks can be used for most purposes and the drop down menus are always there if you need them.

Navigation is a simple matter of clicking with the left mouse button on the section dividers you can see down the outside edge of the "pages". Click once on a divider to skip to that section and once on the small turned up corners at the bottom of each page to go backwards or forwards a page at a time.

To begin with, the diary is completely blank and doesn't even indicate bank holidays, so to rectify this we'll load what's called a diary "theme". Use the Open icon (top left) or the Open option from the Project menu and you should see a file requester with a list of the directories inside the Organiser drawer.

Go into the Diary Themes 95 drawer and there should be 12 theme files to choose from. Each of them contains UK bank holidays and extra information on that particular theme, which means that if you want to know when the Chelsea Flower Show is held you should load the Gardening theme file.

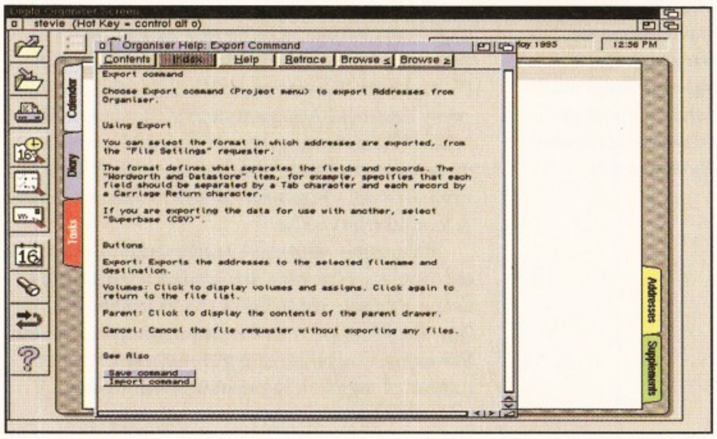
This looks better as we now have a few entries (and they're all holidays!), but to personalise the diary we'll add a few birthdays. You could add your own, of course, but I've always been suspicious of people who need to be reminded of the date they were born. Besides, some of us don't want to so *accurately* track the passing of the years.

Much better to make sure you remember a loved one's yearly date with depression, eh? Move to the correct date by either flicking

Dodgy disk?

If your disk absolutely refuses to work and you are certain it is faulty, please return it, along with an S.A.E., to:

Amiga Shopper Coverdisk
(insert the name of the disk),
Discopy Labs Ltd., PO Box 21,
Daventry, NN11 5BU.



On-line help is both extensive and in-depth. If in doubt, there's a complete guide to how every button and menu item works.

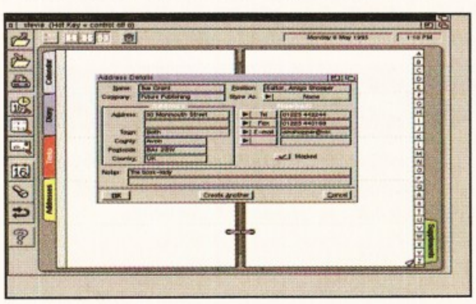
through the pages, going to the Calendar section and clicking on the date, or clicking on the "go to date" icon, which is sixth from the top on the left. To enter the details, you can either choose Diary Event from the Create menu, click on the corresponding icon (fourth from the top), or just double-click on the page.

A window will appear into which you can type a title for the event, some notes ("forget her birthday again and you'll be sleeping on the couch for a month" would suffice) and set up the alarms. For longer events, such as a flower show, you can set both the start and the end date and note that you can enter the date more or less any way you like. As with all events and tasks entered into Organiser, you can erase it by clicking once on the event to underline it, then hit the Delete button.

To give you enough warning of an impending occasion, you can set an alarm which will appear on screen a number of days or weeks in advance. Click on the Alarm button in the bottom right corner of the Diary Event creation screen and choose your early warning period. This will result in a small window appearing on screen as soon as you load the program on the date at which the alarm is set to go off and you need never forget again.

If there's a particularly important event which happens every week or month (such as figuring out how little you've got left once all the tax and mortgage increases are added), or an annual event you'd rather not have to type in every year, the Repeat button comes in very handy. Click on this and a window will enable you to set a weekly, monthly, or yearly repetition of this event until a specified date.

Not displayed on the diary screen, but equally important, is the list of jobs you might want to do on a particular day. These "to do"



More detailed addresses enable you to keep track of people within companies, plus four phone, fax, and E-mail numbers.

lists can be set up using the Tasks section of the Organiser and, again, they can be entered by double-clicking on the page.

When you do, a small window should pop on screen into which you can type the title of the job ("weed the garden", for example) followed by a few notes (such as "would deliberately breaking my leg get me out of it?"). Again, there's a Priority button which we didn't cover in the Events section because it simply displays the tasks or diary entries in descending order of priority, but use it if you need it.

When a task is entered in the list, it is automatically "uncompleted" and there should be a blank check box to the left. Whenever you finish a task, make sure that you click in the box to tell the program it has been done. If you don't and the date for the task passes, Organiser will turn the entry red and keep track of how many days you are overdue, which in my weeding the garden scenario would be about 624.

Another hugely important use for organisers is that when you want to forget someone's phone number, you can put it in your organiser and out of your mind. It's always there when you need it and though this does lead to over-dependence on organisers (the "standing at a phone box patting one's pockets and doing goldfish impressions" syndrome), a list of addresses and phone numbers is essential.

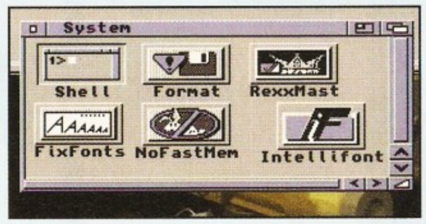
Luckily, you might not have to type them all in yet again. If you already use a database program which can output ASCII merge files, these can often be imported into Organiser using the Project menu's Import option. Users of one of the Digita packages such as Day-by-Day, Mailshot Plus or Datastore are guaranteed that their files will be compatible and most other database ASCII files should be okay.

If you have to type lots of information from your address book, the Address Details requester has a Create Another button so that you can speed things up a little. It makes sense at this point to enter all the relevant details because apart from never knowing when you might need them, the print option allows you to print specific parts of the entry, such as just the name and fax number.

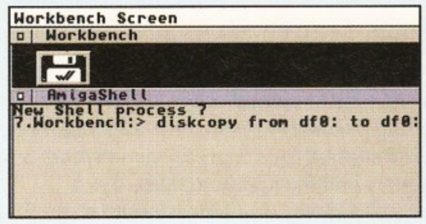
Three list gadgets enable you to select whether this is a person's name or a company and what sort of number you are entering, such as fax, home, office, mobile, or even E-mail (all mod cons, eh?). To create a more

First of all...

Before using either of this month's Coverdisks, please be sure to back them up – just in case. Simply follow the easy instructions below if you are not sure how to do this.



1 *Boot up from your Workbench disk or partition, double-click on your Shell icon – to be found in your system drawer.*

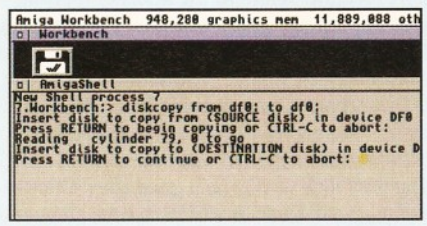


2 *If you only have one disk drive, type in the following line and then press return.*

Diskcopy from DF0: to DF0:

If you have two drives, place the Coverdisk in DF0: and a blank in DF1:, then type in the next line instead.

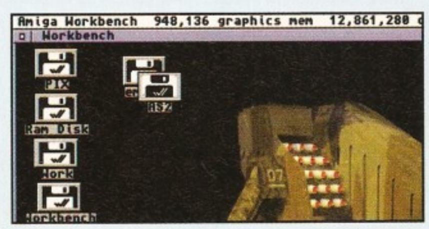
Diskcopy from DF0: to DF1:



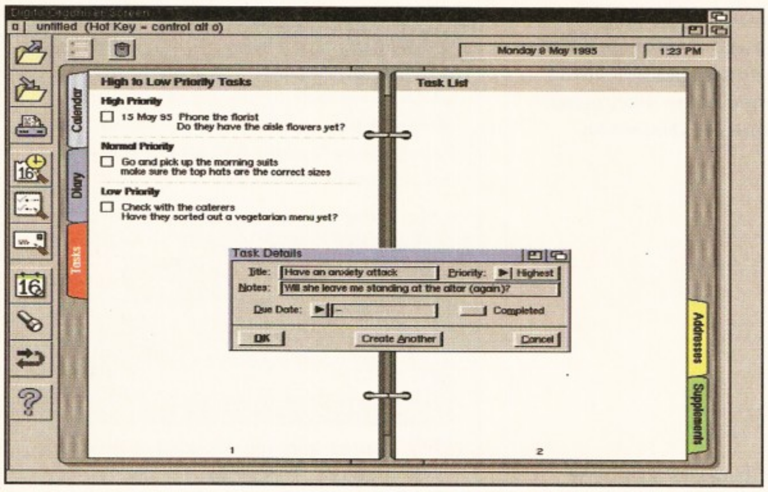
3 *Follow the on-screen prompts and remember that the Coverdisk is the source disk and the blank is the destination.*



4 *If you used the two-drive method, remember to rename the copy by clicking on its icon and pressing right-Amiga <r>.*



5 *If you have two drives, you can also copy the disk from Workbench by dragging the Coverdisk icon over the destination disk's one.*



When you have a list of jobs longer than your arm, Organiser helps you keep track of them and will indicate when they're overdue.

complete list of all numbers, use the Settings menu to change general settings and click on the option for detailed addresses as standard.

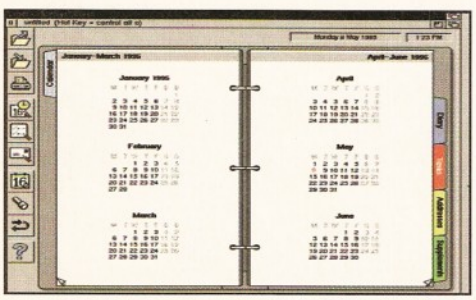
Whenever you create a new address the more detailed requester appears, which gives you four spaces for phone or E-mail numbers, an extra option for a named person within a company and the option to make this a "marked" address. The latter doesn't mean that it will be gunned down by men in tuxedos, but that it can be part of a selected list of addresses to print, such as all company addresses.

For complete control over how your address list will be used, you'll need a database program such as Datastore. Fortunately, Organiser has the ability to export as well as import its data. While in the address section, choose the Export option from the Project menu and save your addresses to disk as a merge file. You should now be able to load this ASCII file into Datastore, or another database, for more complex filtering and printing as required.

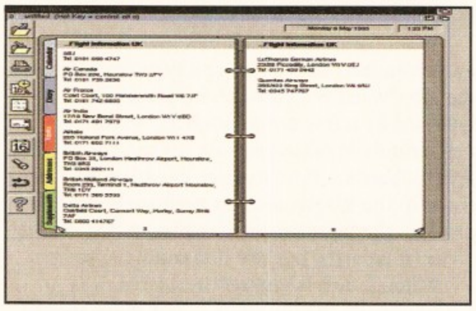
Once your Organiser file starts to fill out, saving it to disk would be a good idea. Choose a floppy or a drawer in which to save all your info and give it a name. If you want Organiser to run every time you load Workbench, save a copy of your file in the WBStartup drawer and the information will be there for you at boot-up.

To run Organiser iconised (or "hidden" to use proper Commodities parlance), change the file's icon tool types to read CX_POPUP=NO. You can't just drag the Organiser program icon into the Startup drawer, so don't bother trying.

Finally, the program has two features which should make using it a lot smoother. In the best traditions of sticking to Commodore (Escom?) guidelines, Digita have given just



To easily find a particular week or day of the year, the calendar screen is probably the fastest navigation route around your diary.



Dozens of information supplements are pre-supplied, and you can create your own in a text editor if you want to add to them.

Oops!

There is a really tiny problem with a few supplements that are supplied with Organiser. The sports supplements cannot be loaded into the supplements section of the program because they are not correctly endcoded.

about every function a keyboard shortcut. A list of these can be found under the Shortcuts item on the Help menu, which brings me neatly into the next paragraph.

The on-line help, which can be accessed by clicking the question mark icon, hitting the help key, or using the Help menu, is a comprehensive manual to the program and contains enough information on Organiser to keep you out of trouble. In any case, this is a dreamily easy program to use.

Using and creating supplements

There are dozens of informative supplements on your Coverdisk which offer much the same information as the pages packed into bulging leather organisers. However, if you have a specific need and the supplements don't cover it, you can create your own with ease.

The supplements themselves are simple text files in ASCII format and can be created in any word processor or text editor. Just open a new document and type in the information you'd like to have at your Organised fingertips, then save the file as ASCII text with carriage returns only at the end of paragraphs.

Organiser takes care of line breaks and page formatting once the text is imported, so if your word processor offers a choice between PC-style ASCII (carriage returns at the end of every line) and Amiga-style ASCII, choose the latter. The new supplement should be saved directly to the Supplements drawer on hard drive or your Organiser program disk so that it is loaded every time.

Of course, you can specify which of the existing supplements are loaded at run time by dragging their icons from the Supplements Storage 95 drawer to the Supplements drawer. Similarly, swapping supplements is a simple matter of juggling icons in and out of the relevant drawers.

Printing your information

Electronic organisers are great for plenty of reasons – you don't tend to leave them on buses and the pages don't all fall out when you open them. However, they aren't very portable and that's where printing comes in.

You can output the information held in your copy of Organiser in a zillion different ways. Each section is printed separately and you can select to print to disk, on a full page, or as a variety of different Filofax-style pages complete with crop marks so you can cut them out and slip them in your portable, paper-based organiser.

Clicking on the Print icon (cunningly disguised as a printer) or selecting Print from the Project menu brings up the print requester. Take a look at this and you'll see two list gadgets – one for the section you wish to print and another for the "week per page" or other date format in which it will be printed.

To set the size of the printed pages, click the Settings button at the bottom of the print requester and choose from the generous selection a page size which fits your paper organiser. If a Filofax page size is chosen, you will also be given a choice (through the toggle gadgets below the list) to centre each page on the printed sheet, print cutting guide lines around it and to output separate list pages. The latter splits your printout into pages for the year, month, tasks and so on.

Now all that remains is to print the range of pages required. The lower half of the print requester makes it possible to choose a range of dates or the entire year. In addition, certain sections have a filter option which is not available for Diary or Calendar sections. To print all overdue tasks, for example, select Task as the section to be printed, then the Overdue option from the Filter list gadget. ■

Where to get Organiser

Organiser is available for £39.99 from Digita International Limited, Black Horse House, Exmouth EX8 1JL. ☎ 01395 270273.

You can also get a copy of Organiser for the special price of £34.99 by ringing the Future Publishing hotline ☎ 01225 822511.

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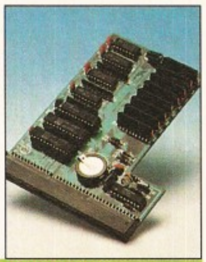
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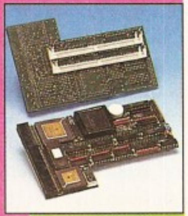
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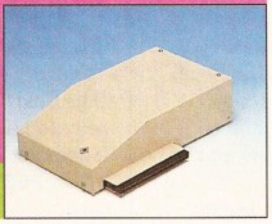
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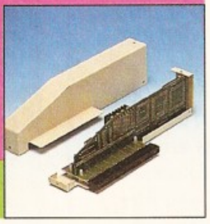


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Disk 2

ShopperChoice this month brings you another tasty morsel in the shape of an exclusive demo of Twist 2, as well as the essential tutorial files. **David Taylor** *sets you on the right path.*

Like word processors, databases are one of the serious programs that *everyone* has a use for. Even if they are seldom updated, the ability to search for data quickly makes them an ideal way to store information.

Twist 2

This version of Twist 2 comes with several ready-made databases for you to explore, including a splendid index to Amiga Shopper. You don't have to scratch around flicking through contents to find that article, because Twist 2 is here to help you get the right issue.

Once the program has installed to RAM:, you can run it from there, or copy all the files to a disk. You do need to type a little, though, to get the program to run, so open a Shell. The following assumes you've left the program in RAM: – change it if necessary:

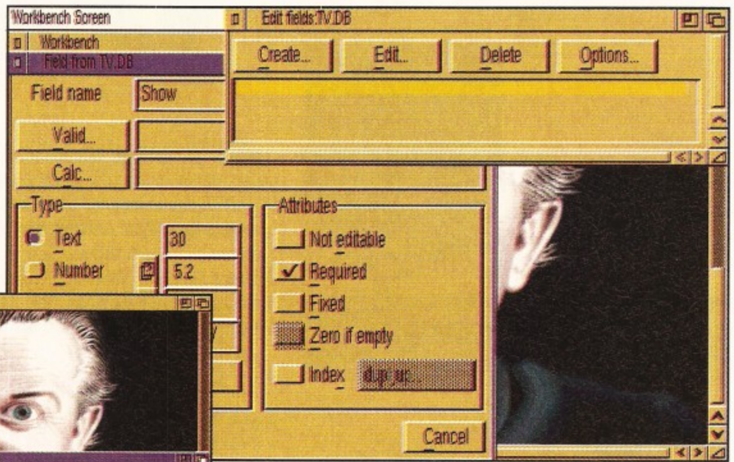
```
assign twist2: sys:
assign twist: ram:
assign twisticon: twist:icons
makelink twist:twist2 twist:twist2demo
```

The program itself can be loaded, or double-clicking on the example databases will load these in directly (you must "Show all files" to find the AmigaShopper directory, because it doesn't have an icon). For the purpose of this quick tour, let's assume you've loaded the albums.db.

The gadgets across the top of the screen are used for moving around the database. The arrows will move you forwards and backwards through the records, while Query will help you to find a record. Click on the Query button and a new screen will pop up; click on Find Text and enter, for example, "pink". Twist 2 will search the database and, with this example, will find four matches. You can flick through the matches with the arrows keys and clicking on Query again will return you to the full database.

The Add, Edit and Delete buttons are for use when updating the records, but remember that this version of Twist 2 can only save files with a maximum of 10 records, even though the examples supplied have thousands more.

To create your own database, select "new" from the Project menu. You'll be asked to enter the name for your database and that file will then be created. You'll now see the fields' editing screen. Click on Create and the parameters for each field will appear.



Editing the fields to set up a new database includes several options for each section.



The finished database was easy to set up and is automtaically formatted by Twist 2.

Let's assume you want to create a database for television shows (call the database "TV.DB"). In the first field-name, type "show." The field "Type", listed on the left of this screen, should remain "Text" and you should set the attribute, on the right of the screen, to "Required", because it wouldn't make sense to have a record of a show without its name. Click on OK to accept this.

Do the same for a field called "Characters" and set the number of characters for the text in the Type to 100. Then make one called "No_of_Episodes" (note: field names cannot include spaces or hyphens) and set the field type to "Integer". The number next to Integer reflects the number of columns allowed – in this case, allowing any number up to 99999, which is more than enough for this. Create a final text field of 10 characters called "Channel".

When you've done this, click on the close gadget in the top left and the database will open you a blank record sheet with all the fields we've specified.

Click on Add and you can start filling in the database. In "Show", type "Simpsons, the". Press return and you'll move to "Characters" – type "Bart, Lisa, Homer, Marge, Santa's Little Helper". Press Return over the No_of_Episodes, because we don't want to put that in here and enter "Sky" for the channel. Now, save the record. Click on Cancel and you'll return to the database listing.

This is a very simple introduction to Twist 2 on how to set up an easy database. There are far more options in the program, such as the Password and Encryption mode in the Fields Options screen, but this should have got you started.

If you are interested in purchasing the full version of Twist 2, it can be obtained from HiSoft on ☎ 01525 718181. ■

Tutorials

Lottery

This month we supply you with the listing for Toby Simpson's lottery program. Also, see page 72 for the tutorial and even if Assembler isn't your cup of tea, maybe the program will help you win millions... maybe!

C Programming – DICE

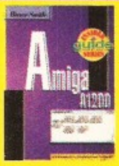
Like Assembler, both the code and the final version of this month's program, a Finder, can be located in this directory. The tutorial can be found on page 77.

Photogenics

Three of the JPEGs from this month's Photogenics tutorial can be found in this directory and the tutorial itself is on page 68.

Emerald Creative Technology

Books



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PC Emulation



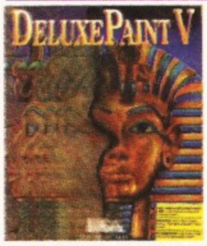
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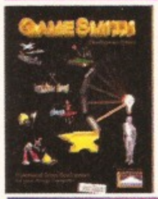
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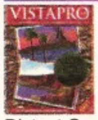
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News

In Amiga Shopper's news pages this month: Escom buy Commodore International; LightWave 4 is delayed; half price tickets for the Spotlight 1995 Show; Photogenics updated; and loads more!

Escom save the Amiga

Our year of sticking loyally to the Amiga has paid off with the sale of Commodore International to Escom.

The year-long, agonising wait is finally over and we can all breath a sigh of relief because Commodore International has been bought up by Escom. The auction for the company took place on 20th April 1995 at the offices of Fullbright And Jaworski in New York. Escom's final bid of US$10 million was approved after objections to the bid were dismissed in a New York court on April 21st. Dell Computer Corporation actually put in a bid of US$15 million, but because they also asked for a 30-day delay in order to assess the value of Commodore's assets, their bid was dismissed.

Escom are a German PC manufacturer who have only been around for the last five years. In that relatively short space of time they have become the second-largest European manufacturer of PCs. Pretty impressive so far – and very encouraging to have the Amiga in the hands of an expanding company. They have recently acquired the Rumbelows stores too, so they have ready-made outlets available to sell the machines through. Nick Veitch attended the recent press conference regarding their plans for these stores and reports back in the box over the page.

As for their plans for our favourite machine – which is what we're all interested in, after all – Escom's Bernard Van Tienen has said that they have a deal with a Chinese manufacturer to start producing A1200s straight away and that they are intending to produce and develop entry-level and high-end Amigas soon. They are also planning to manufacture Commodore 64s for sale in the Eastern markets. Mr Van Tienen also said that they will be distributing Amigas overseas in the US, Australia and South America as well as in Europe.

The first Amigas will be back on sale in the High Street around September this year, which means that they will be on the shelves in plenty of time for the lucrative Christmas period – an Escom shop has recently opened in Bath, so we'll be able to keep a close eye on what hardware they will be stocking.

But what happened to the management buy-out that we've all been talking about and backing for the past year? Well, the Commodore UK team of David Pleasance, Colin Proudfoot and co issued a press statement on 21st April announcing that they had withdrawn from the bidding process. Basically, they couldn't match the Escom bid. However, they are now in

"They [Escom] have a deal with a Chinese **manufacturer** to start producing A1200s."

Escom takes to the High Street

The computer giants who recently bought Commodore, have just unveiled their plans for retail domination of the UK market. Over 200 retail outlets, which once formed part of the Rumbelows chain owned by Thorn EMI, have been decked out in Escom logos and opened to the public. The new stores will join the 27 existing ones which have been opened over the last year around the country.

Escom are certain that there is a market for a High Street chain of shops which specialise in providing computer solutions. In their own words, "you will not have to fight your way past televisions, microwaves, videos and toasters to find the computer you want". The proposition is that because they are a specialist store their sales people will be able to have a high degree of expertise in what they are actually selling.

The aim is to redress the balance between mail order and retail sales. In Germany, over 40 per cent of computers are sold through retail outlets, as opposed to around 17 per cent in the UK. The retailers in this country put that down to people coming into High Street stores for advice and to try out equipment, but then buying it cheaper through mail-order, but Escom don't seem to be concerned about this. They reckon their prices are going to be very competitive.

Escom are being encouraged in this venture by Intel, IBM and Hewlett Packard, their major suppliers. The Escom tie to IBM goes deep. All Escom PCs come pre-loaded with OS2/WARP in preference to Microsoft Windows "because it is a better product".

It remains to be seen what this national presence will do for the Amiga when it returns to active service, or even whether it will be stocked in all of Escom's stores. The only real Amiga information came from a rather telling statement: "the lowest priced PC system is really going to be around £600 and we see that the Amiga has a strong position at a third of that price". While this isn't a firm statement of price, it is an early indication that A1200s should be a lot cheaper on their return than when they went away.

Escom will also be stocking software in their stores, which could be the lift the Amiga software industry needs. Many games publishers have had difficulty getting games on to shelves, especially in both A500 and A1200 format and this has coloured their perception of the viability of the Amiga market.

Nobody at Escom was keen to elaborate their plans for the Amiga: "We are not here today to talk about our plans for the Amiga, there will be another time for that".

---

negotiation with Escom to decide what role they can play in the Amiga's future.

Of the 40 divisions of Commodore, Commodore UK is still technically operating and is not actually in liquidation and therefore it wasn't included in the auction of the rest of Commodore International. Escom are talking to Herbert Verhagen who is the Dutch liquidator, concerning the UK intellectual assets because the Dutch subsidiary of Commodore technically own the UK subsidiary's assets.

> "Commodore UK has valuable skilled resources and **Escom** recognise that."

When Amiga Shopper asked Colin Proudfoot what he thought about the sale of Commodore International to Escom and what part the Commodore UK team hoped to play in the future of the Amiga, he said that because Escom own all the intellectual property rights the future of the Amiga is very much up to them.



Bernard Van Tienen of Escom has plans to start producing A1200s.

Mr Proudfoot also said that Escom have several possibilities open to them: they could purchase the equity of the business, i.e. take it over totally, or they could choose to make Commodore UK a subsidiary of Escom. Another option is to take over the assets and people at Commodore UK, or even a part of the business. Mr Proudfoot said there was "No firm decision from a UK point of view" and that "Commodore UK has very valuable skilled resources and Escom recognise that". He also said that they felt positive about the future.

Escom are arranging a press conference to reveal more of their plans for the Amiga at the end of May and we will bring you an in-depth report of the results in our August issue. In the meantime, for those who want to know more about the auction itself, we recommend that you get hold of a copy of the June issue of Amiga Format which features a blow-by-blow account of the auction for Commodore International.

If you have access to the Internet, and are fluent in Dutch, you can contact Escom's Home Page at: http://www.veronica.nl/escom/ although they haven't posted any news about their purchase of Commodore yet.

Titbits

SX-1 upgrade

Hi-Q have announced their upgrade to the CD³²'s SX-1. The unit matches the SX-1 and bolts on top; it allows the fitting of a 3.5 inch hard drive and includes an upgraded power supply to solve the power problem experienced by CD³² owners, which caused the machine to be unreliable. The cost of the unit will be £129.95 without a drive, or £249.95 including a 540Mb hard drive. Call Hi-Q on ☎ 0181 909 2092.

The Net returns

BBC 2's magazine series about the Internet has returned for a second series and is currently showing on Mondays at 8pm. The series Editor, John Wyver, claims "This second series has been significantly shaped by the input of our viewers".

The series will cover such diverse subjects as MUDs, electronic money and virtual cinema. Any comments on the series can be sent to the_net@bbcnc.org.uk.

London Effects and Animation Festival

This year's festival will take place between 28-30 November, but entries for the awards are now being invited.

There are 12 categories, including Art, Interactive Entertainment, Research, Simulation and Student Work.

For more information and an entry form ☎ 0181 995 3632.

Just Imagine

Imagine 3.2 is now shipping and subscribers to the constant upgrade program (priced at £99) should have already received their new version.

The new version includes a list of bug-fixes, as well as several new features, including a new, fast way to change an object's attributes.

The constant upgrade program is available from Emerald Creative Technology on ☎ 0181 715 8866.

Price zapped

As a reaction to the recent CD-ROM drive price cuts, Indi Direct have slashed the price of their Zappo CD-ROM drives to £159.99. That's a huge £40 price reduction.

They are also packaging the new VII.2 software with the drives. This offer is only available from Indi Direct and Calculus Stores.

For more information call ☎ 01543 419999.

Titbits

More PD please

If you have a great-looking program that you want to distribute in the Public Domain, then get in touch with F1 Licenceware who are looking for more quality stuff to add to their catalogue.

F1 offer a 25 per cent royalty on every copy of a program sold.
To submit a program for evaluation, send your disk with an outline of its function and an s.a.e. to: F1 Licenceware (Evaluations), 31 Wellington Road, Exeter, Devon EX2 9DU, or call ☎ 01392 493580.

News on the Net

Future Publishing has never been afraid of launching into new areas, as has been proved by the many and varied magazines it publishes and the setting up of its own, very successful Internet site, FutureNet.

To demonstrate this innovation further, FutureNet is launching an on-line daily newswire and Announce service over the World Wide Web, which will be available by the end of May.

"The aim is to supply people with a free, daily news service featuring UK, world, sports and computing news in an accessible and pro-active format," according to FutureNet's Editor, Karl Foster.
To access this news service type in: http:/www.futurenet.co.uk

Power up

The GVP range of peripherals will soon be back on the market because Power Computing Ltd and M-Tec Germany have acquired the GVP Intellectual Property Rights.

The range includes the 68040/68060 accelerator cards for the A2000,A3000 and A4000, a PCMCIA 16-bit sound sampler, the 1230 accelerator for the A1200, the HC8 SCSI Interface and the DSS-8. For more info, call Power Computing on ☎ 01234 273000.

Mice price

Has your mouse worn out? Do you need to connect two mice to your Amiga at the same time? Well, Golden Image can solve your problems. You can replace your tired old mouse with the Mega Mouse 400 which has been relaunched at an unbeatable £12.95.

And if you want to use two mice together then try the Auto Mouse/Joystick Switch which has two sockets for mice/joysticks – this box connects into your mouse port. This handy gadget is available for only £12.95. For further details, try Golden Image on ☎ 0181 900 9291.



A new monitor from Samsung with "the user in mind".

SyncMaster monitor

Samsung Electronics have unveiled a new range of monitors: the SyncMaster GLi series. These have been created "with the user in mind." The monitors come in both 15 inch and 17 inch versions and feature the New RealColor Control System, which allows users to correct the mismatch between on-screen colour and printouts.

Designed to be one of the most efficient range of monitors on the market, ecological issues have been looked at, ensuring that ozone depleting chemicals have been removed from the production process. These monitors are for use with higher-end users' machines, such as A4000s, or for users with adequate video cards. Prices range from RRPs of £299 to £699. Call ☎ 0181 3910168.

See the Light

Light-ROM from Amiga Library Services is a multi-format CD dedicated to LightWave artists and includes freely-distributable files collected from around the world.

LightWave 3D objects, scenes, surface attributes, textures and much more are mixed with hints and tips from professional users.

In addition, ALS also have a two-CD set called Texture Gallery with over 1.3Gb of textures supplied in six image-formats.

All three CDs include thumbnail renderings to save you the trouble of rendering the images to view them.

ALS have also reduced the price of TurboCalc 2 from $115 to $39.95. This spreadsheet offers extensive formatting options, as well as more than 100 functions covering mathematics and financial needs.

Diagrams, macros and an integrated database form a few other of TurboCalc's many new features.

ALS are on ☎ 001 602 4910048.

Blittersoft bonanza

Blittersoft are setting to blitz the Amiga market with a range of new products. Aiming at the higher-end user, they now have exclusive distribution of the Sonnet 50Mhz doubler 4000TM.

This sister-board plugs directly into the 25Mhz 68040 CPU socket and they say that anyone who can install a SIMM should be able to fit it.

Their tests indicate the machine runs at 37.72 MIPs, as opposed to the 18.76 achieved by a standard A4000/040. The cost is £479.95.

The Picasso II board is now back in production, priced at £299.95 for the 2Mb version and they are soon to release a Multimedia Picasso with Pablo encoder, TVPaint junior, Main Actor PR and Cinema 4D for £399.95.

Blittersoft have also reduced the prices of the Emplant board, with prices now starting at £239.95.

Orders can be made on ☎ 01908 261466 and technical enquiries should be directed to ☎ 01908 261477.

Attention PD and shareware authors

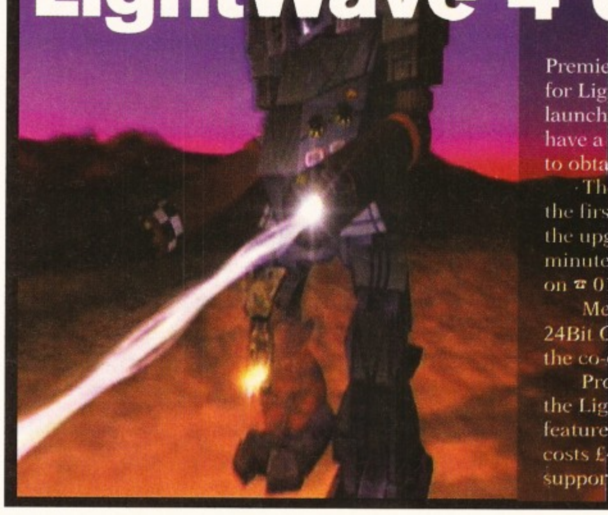
Do you want to see your program included on an AS Coverdisk? If you've got a program you want to share with the world, send it in. If the program is an update, you may want to consider sending the registered version of an earlier incarnation to encourage people to upgrade. Send your programs to: David Taylor, Amiga Shopper Coverdisk, 30 Monmouth Street, Bath BA1 2BW.

Reader offers

From the maker of Pro-Gamble comes Pro-Lottery, a program designed to help you "achieve regular, small-medium multiple wins using its powerful perming and advanced prediction capabilities". Still not convinced?

Well, you can receive a free demo by sending a blank disk and s.a.e. to the author Ali Prior at 10 Lovell Park Heights, Leeds, LS7 1DP. In addition, mention Amiga Shopper when you write and you'll receive a voucher worth £5 off the full version.

LightWave 4 delay



Premier Vision, now named as the sole UK upgrade centre for LightWave 4, have confirmed a slight delay with the launch. It does, however, mean that LightWave 3.5-users have a small breathing space to save their pennies in order to obtain the latest version.

The opportunity to upgrade will only be available for the first month after the eventual launch of the product and the upgrade will cost £150. Further details and up-to-the-minute information can be obtained from Premier Vision on ☎ 0171 7217050.

Meanwhile, gearing up for the upgrade's release, the 24Bit Club have compiled a LightWave showreel video with the co-operation of NewTek.

Produced in order to highlight the 3D capabilities of the LightWave package, the video runs for 10 minutes and features images from the likes of Amblin Imaging . The tape costs £4.95 and comes with details of the LightWave 4 support planned by the 24Bit Club. Call ☎ 0141 9462191.

ProGrab 2.5RT

The software for Gordon Harwood's ProGrab digitiser has been updated even further.

Version 2.5 has had some additional file format support added, with TIFF, BMP and PCX now supported in addition to the plethora already used.

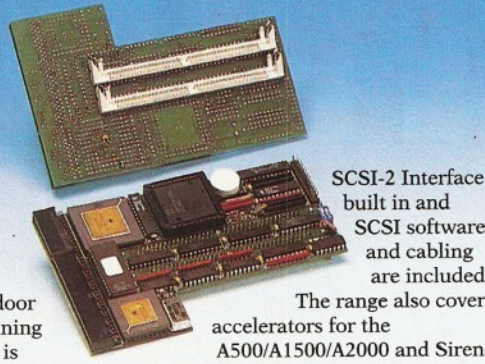
Images can now be loaded in multiple formats, as well as saved, and an astonishing multitude of image effects have been added, from horizontal and vertical flip to Histogram Equalisation (very impressive, eh?).

More comprehensible, dithering is now available too.

The software comes free with the digitiser, which retails at £129.95, and existing users can upgrade.

Gordon Harwood's are on ☎ 01773 836781.

Ready for lift-off



Siren Software are now selling the Apollo range of accelerators for the A1200. The Apollo 1230 Turbo 50 trapdoor expansion card, running at around 10 MIPS, is priced at £269.99.

It features a 68030 running at 50Mhz and two SIMM sockets which can accommodate up to 32Mb RAM each. There is a full SCSI-2 Interface built in and SCSI software and cabling are included.

The range also covers accelerators for the A500/A1500/A2000 and Siren can supply a 28Mhz version with FPU for £189.99.

Each accelerator comes with a 12 month warranty.

Siren are on ☎ 0161 7965279.

Photogenics 1.2 update



Almathera have launched version 1.2 of their wonderful Photogenics.

Still not content with their absolutely fabulous image processing program, Photogenics, Almathera have now launched version 1.2.

The upgrade includes several important additions. Printing to any preferences printer is now supported and several new tools and options have been included.

Amongst these clever new additions are the Warper tool, which enables you to distort and stretch parts of an image, and the crop feature, which gives you the ability to remove unwanted parts of a picture.

The full package costs £59.95, but 1.1a users can upgrade for £15.

Almathera can be contacted on ☎ 0181 6870040.

Half price tickets!

Get into the Spotlight 1995 Show for only £2.50 – that's half the price of a full-price ticket. The Show takes place at the Novotel Hotel in Hammersmith, London on the 10th and 11th June 1995.

To take advantage of this discount just cut out the voucher below and present it at the door:

Spotlight 1995
Sponsored by
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AMIGA SHOPPER

Half price voucher

To be presented at the door

Gasteiner Presents
Atari and Amiga Show
10th & 11th June 1995
Exhibition Centre
Novotel Hotel
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Spotlight 1995 Show
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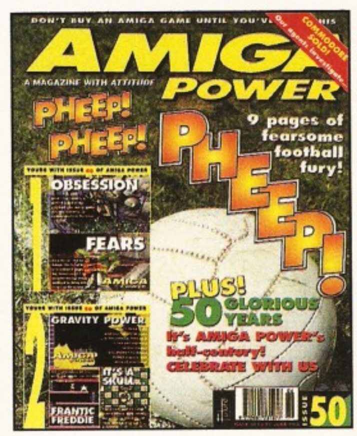
Meet our sisters...

AMIGA FORMAT

I don't really know how we're going to do it. Our last issue had an amazing news scoop and a quite tremendous celebration of the Amiga's 10th birthday. We also had an exclusive on the world's fastest Amiga, the Cyberstorm 060. It is quite possibly one of the finest magazines ever produced. How on earth are we going to top that?

Perhaps we can. Next month is going to be a bit of a graphics spectacular, with first reviews of TV Paint 3, LightWave 4 and ImageFX 2. For those of you with a games bent, we'll have Tower Of Souls and Virocop and if that is not intellectually stimulating enough for you, we'll be having an in-depth look at the 68K series of processors. All this on top of our regular news, reviews, tips and competitions. Hurrah for us!

Nick Veitch, Editor
Amiga Format



Amiga Power has now been disseminating truly essential information for 50 issues and we felt that some sort of celebration was in order for AP50.

Join us, then, for pages and pages of self-indulgence as we look back over the last four-and-a-bit years, somehow preferring this idea to looking forwards at...erm... Anyway, as well as all that, there's piles of the usual Amiga-games-related stuff – news and reviews and so on – along with some particularly desirable Coverdisks featuring a whole table of Obsession (a great new pinball game), a whole level of Fears (a splendid version of Doom – but on the Amiga), a brand new version of Gravity Force 2 (the best two-player game ever) called Gravity Power, and some other things. And it's out now. Pay tribute to us.

Jonathan Davies, Editor
Amiga Power

Take Complete Control

*ARexx is a resource-tracking, interpreted scripting language with the ability to control applications on your Amiga. Sounds complicated? Then, you are in for a very pleasant surprise – **Toby Simpson** tells you all about it.*

Well, now you've got a problem. Your Amiga has spent a whole weekend rendering a cool new sequence in LightWave at high-resolution 24-bit and you really wanted them in low-resolution 256 colours. Bad luck!

Well, you could spend a miserable evening in with ADPro changing the format for each of the frames, or you could re-render the whole lot. Alternatively, you may have a huge text file which just needs a single tab added to the start of each line and everything to be converted into upper case characters.

What a nightmare – a long, boring job with a text editor. Does any of this sound remotely familiar? Have you ever spent more than an hour, repetitively operating some application? If you do anything serious on your Amiga at all, then the chances are you *have*. If you are a programmer, then you may be tempted to write a small program to solve the latter problem with the text file, but what you can't do is control other applications to make them perform operations which you would normally have to do with the mouse and keyboard.

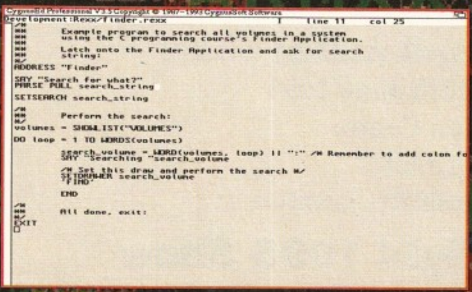
So, a quickly knocked up program is certainly not going to solve our far more depressing rendering problem. Considering the fact that computers are meant to be tools which make life easier, there really has to be a better solution.

There is! ARexx is the Amiga's best kept secret, there is no doubt about that. This stems from a number of reasons. Unless you still have an old Kickstart 1.3 or 1.2 machine (and if you have, for goodness sake, *please* upgrade), you have ARexx. Yes, whatever it is, you have it, free of charge so to speak. It comes with every Amiga with 2.04 or higher. You may not actually know this, as the powers that be decided not to ship a manual with the A1200. A4000 owners *do* have a manual, but this is about as much help as a chocolate teapot as it contains no tutorial and doesn't really explain the potential.

What is ARexx?

ARexx is a resource-tracking, interpreted scripting language with the ability to control applications on your Amiga. Sounds pretty nasty, eh? You're in for a pleasant surprise – ARexx is a programming language and a very easy to learn one at that. With programming languages like C or C++, for example, you have to "compile" your program. This means that a special program, called a compiler, converts the stuff that you've written directly into stuff which the computer understands: machine code.

There are some serious advantages to this.



ARexx scripts can use other DOS commands or programs to complete their tasks.

The major one is that your program will run much faster, as it has been turned into something which the microprocessor itself (your 68000 series chip) can run. Learning such a language to the stage at which it would be useful is a major undertaking and for most people totally unnecessary.

On the other end of the scale are languages like ARexx. ARexx is an interpreted language. This means that instead of being compiled, it is effectively "converted as we go along". A special program called an Interpreter looks at what each part of the program wants to do and performs the actions itself. At no stage is the program you actually wrote converted into machine code.

The disadvantage of this is that programs run much slower, so, in general, interpreted languages are pretty useless for major programs or applications. Another catch is that in order to run the program you need the Interpreter. With ARexx, this is not a big program as the entire Interpreter is only 50K.

The advantages all start to stack up, however. Error and syntax checking are vastly superior, since they are performed as you go along, providing helpful placing of where the errors are in context with the problem (where the program stopped, the error was). Also, as your program is never *directly* machine code, the Interpreter always has control. This reduces the possibility of harming your machine, or performing a dangerous operation.

What makes ARexx unique amongst interpreted languages, however, is its ability to directly control applications other than itself. Initially, this may not seem like a revolutionary

concept, but think about it for a while. Potentially, any job you can do inside an application by pressing buttons, selecting menus and typing things, can suddenly be done by writing a small ARexx program. Penny dropped yet?

If you can put it into a program, you can suddenly make it happen 100 times, or 1,000 times – just by adding *one* line of program code. And what is more, you can go and watch the TV whilst it happens. And because it is in a program, you can easily change the parameters for each one. If it sounds too good to be true, then I'm afraid the answer it that it is.

If you're not of a programming background and have never used ARexx before, then don't panic if you feel a tad baffled still, we'll clear the fog in a minute or two. Here is the catch:

In order for an application to be controlled by ARexx, it has to be specially written to support it. An ARexx supporting application, such as Art Department Pro, for example, has something called an "ARexx Port". This is a sort of Interface through which the application and ARexx can talk to each other. If it has no ARexx Port, it can't be controlled.

As catches go, this one has grown smaller on a monthly basis, although it still exists. Most major Amiga applications, from art packages and renderers, to word processors and communications packages, support ARexx in varying degrees. This ranges from some minor control to total and utter control, such as that which you have with Art Department Professional (ADPro).

How does it work, then?

Like all programming languages, ARexx has a specific format. It has a whole load of commands which perform operations and a syntax which defines how it is all laid out for the Interpreter to understand. Programming languages are easy to identify and quantify, beause in order to qualify, they have to include these three things:

Sequence – The ability to go from one command to another in sequence. This is what makes the program actually happen; one command is acted on (executed) and then the next one is and the next and so on.

Decision – The ability to make a decision and then act on it. This allows you to look at information and, depending on what it is, decide to do something. In languages such as BASIC, this takes the form of "*if* something has happened *then* do something".

Repetition, or Iteration – The ability to go round in circles. Without this, our programs would be massive, even to achieve the most basic operation, since everything would have to be in sequence.

These, when all combined together, make a programming language.

Enough of the generalities, let us have a closer look at ARexx itself.

Getting it running

As shipped, the Amiga does not start up the ARexx Interpreter. Before you can run any ARexx program at all, you must fire up the Interpreter. The easiest way to do this for Workbench 2.04 users is to simply move the Interpreter into your WBStartup drawer on your Workbench disk, or Workbench hard drive partition. The Interpreter is called "RexxMast" and you can find it in the System/ drawer. 1.3 users have to twiddle with their startup-sequences to make it work.

By setting it up to start automatically whenever you boot your Amiga, you can be sure that ARexx is always available. It only takes 50K of memory, so it's not really a major loss to have there. Should you really badly need that 50K, then you must remember to double-click on RexxMast before you attempt to use ARexx each time. When running RexxMast, you'll get a message similar to this:

ARexx Version 1.15 Copyright © 1987 by William S. Hawes. All Rights Reserved REXX server active.

Now we're ready to rock and roll. The next thing to do is to decide where we are going to store our ARexx scripts. By default, this is unfortunately in S: which is your S/ drawer on your Workbench disk. This is quite an unfortunate choice and you'll almost certainly want to change this to something more sensible. There is an assign called "REXX:" which points to which drawer ARexx scripts are to go in. If assigns baffle you, then have a look at the jargon busting boxout below.

The best thing is to create a drawer somewhere, called something like "ARexx scripts" and add a line to your S:user-startup file a little like this:

```
assign rexx: "data:ARexx scripts"
```

On your system this may of course be different, but you should get the general idea. After you've done this assign, reset your Amiga and open a Shell. Type in...

```
"cd rexx:"
```

...and press return. If you are now in your chosen drawer, then you've got it right. If not,

> "What makes ARexx **unique** amongst interpreted languages, however, is its ability to directly **control** applications other than itself."

Jargon busting

Assigns – Think of an assign as a shortcut to a drawer on your Amiga. If you were to create an assign called "letters:" which pointed to a letters drawer somewhere on your hard disk, then instead of having to refer to the whole path every time you wished to work on a letter, you could refer to "letters:".

The really cool thing is that if that drawer changes at a later date, you just update the place the assign points to and can still carry on referring to letters: as before. Consult your AmigaDOS manual for syntax information for the ASSIGN command which you can use from the Shell.

68000 – The computer inside your Amiga. Inside your Amiga amongst all the other chips and electrical wizardry is the microprocessor. The microprocessor is the actual computer – everything else is there to make it work (like memory, for example).

There are many different types of Microprocessor. IBM-PCs use the Intel 8086 series, of which the most common in use these days is the 80486 and the Pentium. Amigas use the Motorola 68000 series. The A1200 has a 68020 chip and A4000 owners will have an 68030 or 68040.

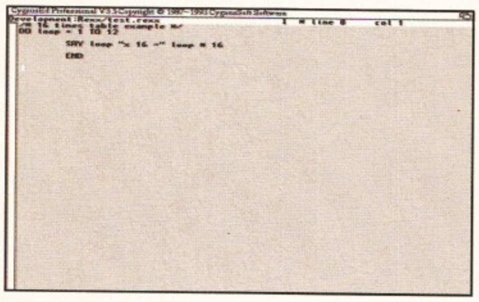
C/C++ – Very popular compiled computer languages. The Amiga's Operating System (Kickstart and Workbench) was written almost entirely in C. C, although quite a pain to learn, is an excellent language and is very fast. C++ is an object orientated version of C.

Object orientated programming has been around since the 60s, but is only now achieving the popularity it deserves. It is a whole different approach to programming and something Amiga Shopper is going to cover in the C programming course in a future issue.

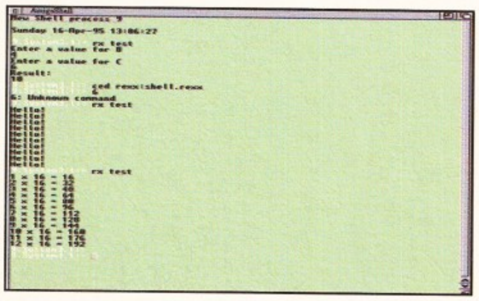
Bug/Debugging – A bug is an error in your program which stops it performing correctly. Debugging is the tedious action of finding out what is wrong and fixing it.

Comments – Something a lot of programmers keep missing out on and regretting at a later date. There is really no substitute for "self documenting code", programs which are well commented and are therefore easier to read. Easy to read means easy to debug and also much easier to maintain.

> **"ARexx has the potential to transform the way in which you work on your Amiga."**



Writing the times table program in CygnusED Professional – now you try it!



Trying out all the test programs, including the times table and simple equation solver.

check what you did and fix it before we carry on, otherwise you'll end up with the cluttered S drawer from the depths of Hell!

Learn a little programming

An ARexx program consists of a text file, like the one you might write in a word processor. The difference is that it contains an ARexx program, rather than a letter to mother. This is called "the source code", or, in the ARexx world, "an ARexx script".

An ARexx script consists of a load of commands which perform various operations and optional comments, so that you can document what the more complex bits do for your own purposes. The easiest way to demonstrate this is to write a program.

Open up a Shell window and then type the following:

```
ed rexx:hello.rexx
```

This runs the AmigaDOS text editor (which is pretty poor – you'll probably want something better. I use CygnusEd Professional 3.5. This is a commercial program, but there are plenty of high quality PD or shareware offerings around) and creates a new file called "hello.rexx" in our rexx: drawer.

Now, type the following into the first two lines very carefully:

```
/* Our first Program */
SAY "Hello World"
```

Don't skimp by being clever and thinking you can ignore the first line.

For the non-programmers amongst you, the first line of our two-line program above is a comment. Comments in ARexx are enclosed with a /* and a */. These are ignored by the Interpreter and allow you to document your programs. A lot of people don't bother and pay the price at a later date.

It is *compulsory* for the first line in an ARexx program to be a comment. If it is not, the Interpreter will *not* run your program. The best thing to do is to put something sensible in it to describe the overall purpose of the script you are writing.

Now press the ESC key and type 'sa' and press RETURN. This saves your program. Now, press ESC again and enter "x" to exit the editor. Type the following from the Shell:

```
rx hello
```

All being well, you should see the message "Hello World" on the Shell window. Well done, you've written and run your first ARexx program. The RX command means "run ARexx script". We then simply gave the name of the script we'd written and it ran it.

Note that we didn't have to specify the whole thing, which was "rexx:hello.rexx". We could – this works too...

```
rx rexx:hello.rexx
```

...but we can take short-cuts. RX assumes that if you don't specify otherwise, the script you wish to run is in the REXX: drawer. It also assumes that it has ".rexx" on the end.

So let's have a look at our first program and see what it does. It is quite simple – it consists of two lines. The first is the statutory comment. The second performs the action. We are using ARexx's SAY statement to put a message on screen – in this case, everything between the quotes.

Stuff in quotes, like this, is called a string. A string is a collection of one or more characters, where a character is any alphanumeric or punctuation mark. If we had not put quotes around this, the program would have generated a very different result (you may want to try it). We'll come to this.

Now on to something more complex. For the non programmers out there, a brief description of variables is required. Remind yourself of your high-school days (if you're at high-school, then this shouldn't be too much of a memory feat) when you did algebra in maths. You recall the stuff:

```
a = b + c
```

Nice and easy equation, it must be said. In this case; the result, a is equal to the other two (b and c) added together. a, b and c are symbolic representations of numbers. They could contain any number they like; it is up to us to assign values to perform the equation.

The same works for computer variables, except in the case of ARexx, a variable doesn't have to just contain a number, it could also contain a string. In ARexx, you are not limited to what you call these variables either, which means you can give them useful names instead of single letter names.

To illustrate how easy it is, let's put the equation above into a program which solves it:

```
/* Simple equation solver */
b = 5
c = 3
a = b + c
SAY a
```

History of ARexx

ARexx stands for "Amiga Rexx". REXX is a language which was created in 1979 at IBM by Mike Cowlishaw. He wanted to create a language which was easy to use and learn, yet flexible and powerful at the same time. He created a language which was best at dealing with the information which people use from day to day, such as words and numbers.

ARexx is a typeless language, in stark contrast to C or C++. This means that you don't have to specify what type of information you are dealing with, the ARexx Interpreter figures it all out as it goes along. REXX's most important feature, however, was none of these – it was its ability to control other applications.

The biggest advantage of this was that instead of users having to learn various different script languages for all the different applications they made use of, they could just learn the one – REXX. Suddenly, the actual users of machines had the power at their fingertips to make applications work together, even sharing information through REXX. In a multi-tasking environment, such as the Amiga's, a language such as REXX is a godsend.

REXX was developed throughout the early 80s and in 1987 it became the standard procedures language for all IBM mainframes. 1987 was a busy year for REXX, because it was also the time when William Hawes ported it to the Amiga and called it Amiga Rexx.

Support for ARexx was limited at first, but gathered steam rapidly. William Hawes sold, supported and developed the product himself. Eventually, Commodore decided that it was so important to Amiga users that it should be shipped as standard with all Amigas and from Kickstart 2.0 it was. Now every Amiga owner with 2.04 or higher has ARexx with their machines and may not even know it.

ARexx's popularity is well deserved. It allows users without huge programming aspirations and abilities to automate repetitive tasks, control their applications and share data between them. This power in the users' hands is very important, because when an ARexx-supporting application doesn't do a job you wished it did, the chances are that you may be able to write a script which adds this feature yourself.

Pretty simple, eh? We set up 'b' to contain 5, 'c' to contain 3 and then perform the calculation putting the answer in 'a'. We then use the SAY statement to display what number 'a' represents.

Note, we didn't use quotes around 'a' for the SAY. This is because it isn't a string. We don't actually want the letter 'a' on the screen, we want to see what the variable 'a' contains. There are a couple of things to watch out for when dealing with variables in ARexx:

- Names are case insensitive. This means that the variables "X_CO_ORDINATE" and "x_co_ordinate" are treated as the same variable in ARexx.
- When a variable is created in ARexx, it gets a default contents. This is the name of the variable itself in capital letters. Normally, you will create variables and assign values to them in the same line, like we did with 'b' and 'c' above. This can be a handy debugging aid.

Time to enhance the program a little further. What would be nice is if, instead of having to change the program to alter the values for our equation, we could get it so that when the program is run, the user can type in what values he/she wants for 'b' and 'c'. In ARexx, this is done with the PULL statement.

Try altering the program to look like this:

```
   /* Simple equation solver */
   SAY "Enter a value for B"
   PULL b
   SAY "Enter a value for C"
   PULL c
/*Now calculate the result */
   a = b + c
/* and show it on the screen*/
   SAY "Result:"
   SAY a
   EXIT
```

We have neatened it up a bit too and added some helpful comments. I've also slipped in a new statement, other than PULL, which is EXIT.

EXIT tells ARexx when to stop running the program. Since the end of our program is always the end of our ARexx script currently, this is not an issue, which is why we've missed it out before (if ARexx comes to the end of your script, it stops anyway), but I've included it for completeness. When run, the results look a little like this in a Shell window:

```
9.System3.1:> rx test
Enter a value for B
4
Enter a value for C
6
Result:10
9.System3.1:>
```

PULL is actually a shortcut for the more heavy-duty command "PARSE PULL UPPER". PARSE is a complex instruction and it, along with INTERPRET, are two of the most powerful commands in ARexx and set it aside from other languages. Both of these two are definitely subjects for a later tutorial though.

As you can see, there is nothing really *that* difficult. To be honest, knowing only a little more than this is all you need to be able to make *some* use of ARexx. If you can do a loop, make a decision and you know how to control other programs, even in a basic form, you're away. Let's briefly cover these subjects.

Decisions and loops

When we introduced programming languages Repetition, or Iteration was one of the three key features it had to have. There are many ways of going round in circles in ARexx. Here is one of the easiest:

```
/* Loops! */
DO loop = 1 TO 10
    SAY "Hello!"
    END
```

You *should* be able to guess the result of running this one. We get the word "Hello!" on the screen 10 times. What we're doing is saying "we want a new variable called loop. Start it at 1 and keep executing the statements between the DO and the END until it becomes equal to 10. Increment it by one loop each".

The ARexx Shell

```
The ARexx Shell: Also on the coverdisk.
/* Simple ARexx Shell */
OPTIONS PROMPT ">"
RC = 0
/* Deal with host commands returning
non-zero return code */
error:
SIGNAL ON error
IF RC ~= 0 THEN DO
    SAY "+++ Error: RC =" RC
    RC = 0
    END
/* Deal with syntax errors */
syntax:
SIGNAL ON syntax
IF RC ~= 0 THEN DO
    SAY "+++ Syntax Error:" ERRORTEXT(RC)
    RC = 0
    END
/*
** Loop until "QUIT" is entered, asking
for and then executing
** entered statements
*/
DO FOREVER
    PARSE PULL shell_line
    /* Deal with the user typing QUIT to
leave the shell */
    IF UPPER(shell_line) == "QUIT" THEN
EXIT
    /* Interpret the command now */
    INTERPRET shell_line
    END
 [end]
```

We can use this for a classic computer science toughy – the times tables.

```
/* 16 times table example */
   DO loop = 1 TO 12
   SAY loop "x 16 =" loop * 16
   END
```

It's the same as above, except the loop goes from 1 to 12. We're also using SAY in a more complex manner. We first show the contents of the loop variable (which is the loop counter), then the string " x 16 = " then the result of loop x 16.

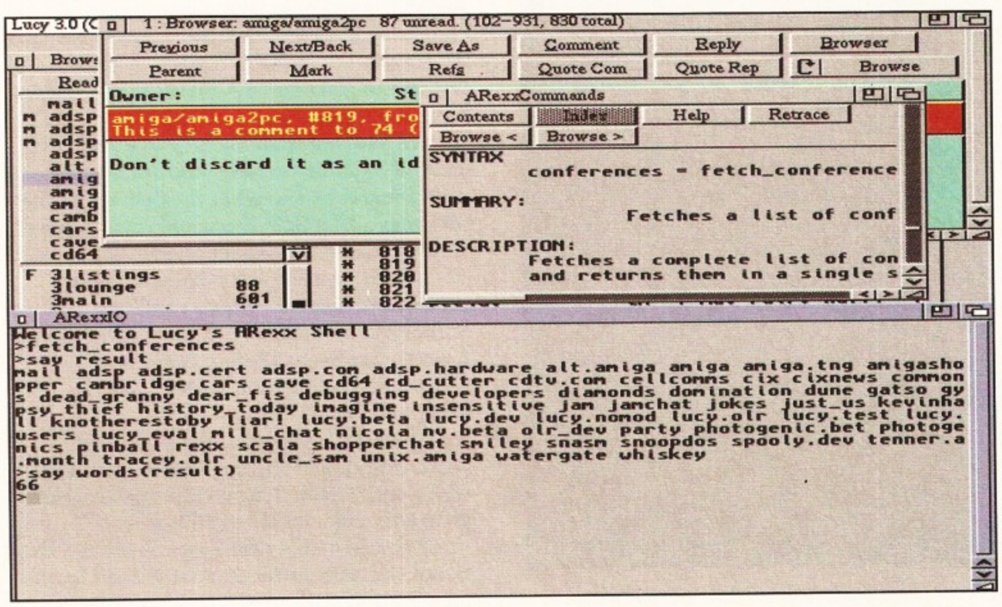
Note, we use * for multiplication instead of x. We also use / for division in ARexx (and indeed pretty much all programming languages). DO comes in many flavours, of which this is just one. Decision-making is made as part of the loop to decide when to stop. Decision-making can also be made in a number of other ways, IF is the most useful:

```
/* Age test */
   SAY "Enter your age"
   PULL age
   IF age > 29 THEN SAY "You're getting
older now"
```

We're just allowing the user to enter an age and are then saying that if the age is greater than 29 (i.e. you're in your 30s or higher) show a message rubbing this fact in.

You can have more than one statement occurring for an IF by enclosing them between a DO and an END, for example:

```
IF age > 50 THEN DO
    SAY "That is far too old, I'll knock 10
years off it for you"
    age = age - 10
    END
```



Lucy, an off-line reader for the CIX system, makes extensive use of AREXX and features an AREXX Shell.

Controlling other programs

If you attempt to use a statement in ARexx which doesn't exist, instead of stopping with an error, ARexx first tries to farm it out to other applications to see if they want to deal with it. This is the way that most ARexx support works, by effectively allowing external applications to expand the command set. You have to specify the ARexx Port (which we introduced above) of the application you wish to talk to using the ADDRESS statement.

Obviously the application has to be running in order for this to work, since otherwise the port would not exist. There are ways of building this into your ARexx scripts, so if the application isn't running, it can be automatically started. Here is a small example of a script which dials a telephone number using the popular shareware communications program, NComm:

```
/* NComm dialler. NComm must be running for
this to work */
    ADDRESS "NComm"
    HANGUP
    DIAL "0181 390 1255"
    SIMPLEREQ "Dialling"
    EXIT
```

We set our ARexx port using the ADDRESS statement to 'NComm'. This means that should the ARexx Interpreter come across a command which it doesn't recognise as a valid ARexx statement, it passes it to NComm to process.

The middle three lines of the program are all instructions to NComm, telling it to hang up the modem, then dial a telephone number and finally show a little requester on the screen labelled "Dialling" to show what is going on.

We could then go on to make the script log into the service we'd dialled for us, entering our username and password. This sort of "quick and dirty" solution to automating boring tasks is ideal for ARexx.

Controlling applications in this way is where the sheer usefulness of ARexx shines through. It is also a complex subject, which we will cover in future months.

The ARexx Shell

One of the really cool things about ARexx is its INTERPRET statement. This is pretty unique to a language, the only common similar equivalent I've seen before is EVAL in BBC BASIC on the old Beeb, but INTERPRET is much more powerful.

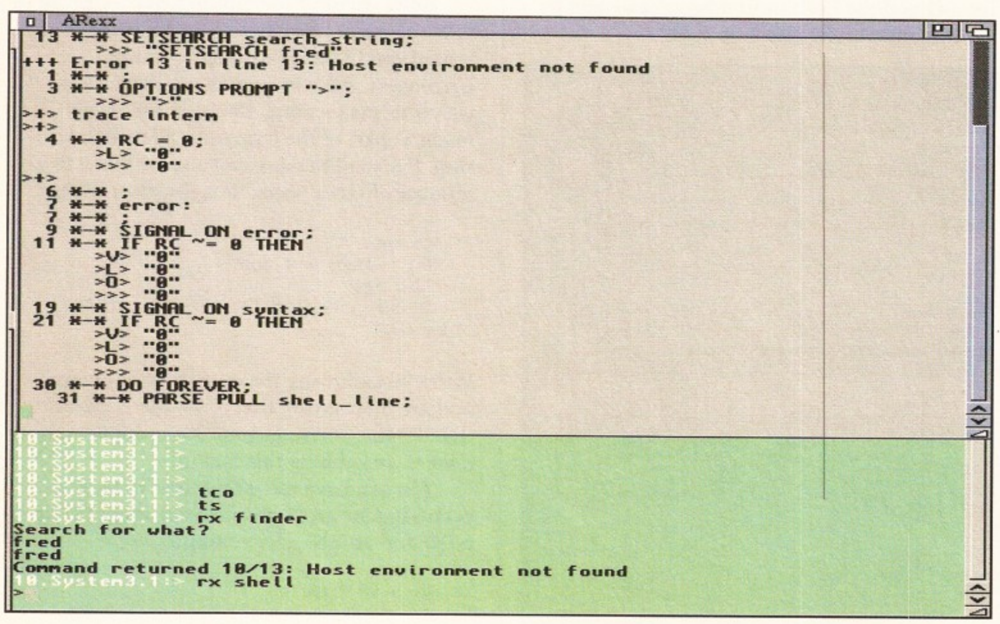
INTERPRET allows you to put an ARexx expression, statement, or even a whole program into a variable and execute it as if the Interpreter had. Enter stage left the ARexx Shell, a little program I knocked up for Future's book on ARexx which has got to count as the handiest ARexx tool written in ARexx itself *ever*. Type it in from Listing 1.

Think of it as a Shell window, except instead of typing AmigaDOS Shell commands, like DIR and COPY, you can type any ARexx statement too. You can also control applications from it, which is a great hassle-free method of trying out new programs which support ARexx.

What is ARexx for?

So, we've established what it is; why it's so cool and how to use it, but what can you actually use it for? Other than as a programming language in its own right (although it's a mite slow, it is ideal for beginners), ARexx is particularly useful for three main things:

1. Automating boring tasks. If you have a long, boring job to do, involving the same sort of processes time and time again, then ARexx can possibly help to automate these jobs. Graphic and audio users out there will often have hundreds of files, each needing a small touch up. ARexx, for example, could apply a small graphic change to 200 frames in an animation overnight whilst you slept.



The global tracing console. This allows you to step through your programs a line at a time and see what the actions are. Very useful for removing bugs from your program – to be covered in a future issue.

Help for 1.2 & 1.3 folks

I'd like to believe that nobody is reading this boxout, since you've all upgraded to at least 2.04 and preferably 3.0 or 3.1. Sadly, reader surveys and letters tell me that this is far from the truth. This is most unfortunate, since you are missing out big time. If you use your Amiga for any serious jobs at all, you really, really ought to upgrade.

Face facts – if you're using 1.3, you are using an Operating System which is a decade old. Back in the days when 256 colours was a dream away and I was in the 5th year at high-school. The cost is minimal, especially for an upgrade to 2.04. Even the most broke student should be able to give up a few pints to buy the ROM.

If, however, despite this well worn and repeated lecture you are going to stick with it, then ARexx can be bought for a small charge directly from the States.

Contact William Hawes, PO Box 308, Maynard, MA 01754, USA. ☎ 001 617 568-8695 (includes international dialling code).

2. Remembering common operations you do regularly within an application. These are called macros. They are ARexx scripts designed to perform an operation within an application which would otherwise involve a number of steps. A program like ProPage 4 (when that was still around) uses a whole bunch of these to provide various DTP functions and called them Genies, but they were really ARexx macros.

3. Quickies. ARexx is ideal for knocking up that quick program to perform an operation which would otherwise take more than a few minutes. In next to no time, you can have working table-generators for word-processors, calculators, programs that perform a whole bunch of calculator operations and so forth.

Where to go now?

ARexx is an incredibly underestimated tool. It has the potential to transform the way in which you work on your Amiga, putting power to the users which had previously only been available to experienced programmers. The Amiga is lucky in having such a good Operating System which allows tools like ARexx to work in the first place. A large number of machines out there are still waiting for luxuries like this.

We have only had the time to skimp over the subject in this article, but, rest assured, we'll come back and cover the finer details of ARexx at a later date. You could easily write a whole book on the subject of ARexx.

Indeed, several people have, including myself. "ARexx: Your Amiga's Built-in Turbocharger" costs £17.95 and is available from Future books (Future Publishing's credit card hotline is on ☎ 01225 822511). Its ISBN is 1-898275-09-2.

If you get stuck with ARexx, read the documentation of any applications you have which supports it. You can often get example-programs and a lot of help this way.

If you own an A4000 then you are the lucky owner of a truly awful manual. Hopefully, the introduction given in this article will be the missing bit from the front of that. ■

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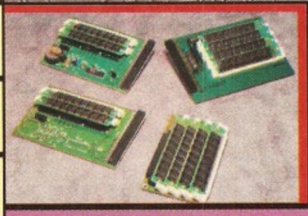
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Reading the small Print

One of the main reasons for the ever rising popularity of ink-based printers is that they provide truly excellent value for money. **Larry Hickmott** *takes 13 of the best printers around for a test spin.*



It's a known fact that printers are one of the most popular peripherals for attaching to a computer and the favourite type of printer with Amiga-owners is the InkJet. I use that term loosely since there are a number of different types of technologies being used that are based around ink. The Canon BubbleJet is one, the Hewlett-Packard InkJet is another. The reason they get called different things revolves around copyrights and trademarks although the technology is basically the same.

One of the main reasons for the popularity of ink-based printers rising is that they provide brilliant value for money. Five years ago, I bought my first Hewlett-Packard DeskJet 500 and it cost me more than £400. Now, I can buy the same type of printer for £200. A price-drop like that in such a short space of time is quite incredible and explains why the market has grown so fast. A fact which is backed up by the board-room analysts in such companies as Xerox, who are soon to release their own InkJets.

Ink-based printers are also very versatile. You can print very good quality, text-based documents quickly, using a program like Protext, or, if you prefer, create some stunning posters for your wall, using some of the excellent clip art available for the Amiga. Maybe you produce a newsletter for your local football club, in which case you can use an ink-based printer to produce the artwork and then photocopy it. With labels now available, you can even produce your own stickers in a number of different shapes and styles.

There are two main categories of ink-based printers: colour and monochrome. In this Supertest, we are taking a look at both types and weighing up the pros and cons of each. The points I'm going to be looking at are price, quality of output, ease of use and the cost of running an ink-based printer.

I am also basing the printed quality on the results I get using papers provided by the various manufacturers for their printers and also using the printing package Studio 2. This is because most of the printers do not come with their own printer-drivers and dedicated drivers do not exist either with Workbench, or in the Public Domain.

Before moving on to the reviews, I'd also like to say that in the process of reviewing the following printers, we have compiled a large number of samples that we're making available to readers of Amiga Shopper on a first come, first serve basis. To grab one, send a stamped self-addressed envelope to Amiga Shopper Printer Samples, 13 Gairloch Ave, Bletchley MK2 3DH. Call me first (☎ 01908 370230) to make sure the samples haven't all gone.

HP DeskJet 540

The Hewlett-Packard DeskJet 500 series, is one of the best selling and most respected in the world. The 540, the latest model, now boasts a new slimline look with the designers having removed the control panel. There are now only two buttons on the face of the printer and to communicate with the 540, you're going to need software like Studio 2 Professional which has within its Preferences panel buttons to turn on and off various software-controlled functions. Older Workbench DeskJet drivers work, though not *that* well.

Although Hewlett-Packard have now placed the ports for the printer cable and power cord at the back of the printer making them much more accessible, they have still persisted in keeping the power supply separate. Although there are reasons for this, it would be better to have the PSU inside the shell of the printer and this is where Hewlett-Packard should stick it. In the nicest possible way, you understand.

With all these changes comes an increase in the high-street price. Expect to pay around £260 for the printer with the colour kit. If you want to get the best from the 540, you should also add £49.95 for Studio 2 Professional.

The other major cost attached to using an InkJet like the 540 is the price of consumables such as ink cartridges. You can use two types of cartridge with the 540: a black one, or a tricolour. One or the other, not both at once like you can with the new 660C. The cost of these cartridges varies from around £22 for a black one, to £26 for the tricolour model.

Quality from the printer on plain paper is largely unchanged from previous models, mainly down to the fact that it's still a 300 dpi printer. With that said, I *did* notice that greyscale and colour pictures printed with no

▶ 24


BJC-600e
BACK
PRINT
FILM
CANON BJ 200ex
Canon
EPSON



Replacing the DeskJet 520, the 540 can print in colour and black-and-white and the quality is the best I've seen from a budget-priced DeskJet.



The Canon BJ-200ex is an excellent black-and-white printer that comes with a free printer-driver.

Jargon buster

Banding – Some printers when laying the image on to paper, leave white or black lines. This can be caused by blocked nozzles, or an inferior print-method where the strips overlap, causing a row of dots between each strip to be darker than the rest. This can be caused by printer software, or the printer.

BubbleJet – BubbleJet refers to the process developed by Canon whereby the ink is heated before a 'bubble' of ink forms to produce the image on paper.

Coated paper – Special paper developed for use with ink-based printers. On one side is a coating of chalk or clay that smooths out the surface and stops the ink from spreading.

Dpi – Dots Per Inch. Used to indicate the resolution of a printer by the number of dots it can print in an inch of space, both vertically and horizontally.

Piezo – A technology used by Epson and Citizen, among others, for transferring the ink from the printhead to the paper.

visible banding or marking, such as they did many years ago, and greyscale pictures, especially, printed better than they did on most of the other printers reviewed here.

You can improve the quality even further by using a special paper such as the one from Hewlett-Packard. Because small text does tend to break up on cheap copy-paper, try using the Premium InkJet paper from HP and you'll see the quality is much improved.

HP DeskJet 540

As with previous models, the DeskJet is simple to use, although the limited control panel will, I expect, cause users problems if they don't have suitable software to control the 540. Excellent value!

Price: £229 (colour kit £30 extra)
Supplier: Hewlett-Packard UK
Contact: 01705 664144

Verdict: 87%

Canon BJ-200ex

The BJ-200ex is a black-and-white-only printer, aimed at those who want good-quality output at a very attractive price – around £250 in the high-street. Unlike the new Hewlett-Packard model (the 540), which has had a colour option added, Canon have stuck to making the BJ-200ex black ink only, which is sensible enough, bearing in mind that Canon have a number of colour models which also have black-and-white options.

The Canon is also great value when it comes to printer-drivers, because it comes with a free printer-driver called CanonDisk V3. Not in the box with the printer, you understand, because the percentage of Amiga buyers compared with PC owners is small.

To get the driver, you can do three things. One is to ring the technical support line and request one. The number is ☎ 0891 616151. If you have access to a fax, you can try the second method on 0181 2887303. Thirdly, you can download CanonDisk from the Canon BBS on ☎ 0181 2887304.

If you want to get up and running as soon as you have your printer, my advice is to order the printer-driver before you buy, so you don't have to wait before being able to make use of your printer. What you'll get when you ask for a printer-driver is CanonDisk V3, which supports all the Canon printers and is a very useful printing enhancement package for Canon printers.

The BJ-200ex supersedes the BJ-200 and has many new features, such as a smoothing mode and automatic emulation switching. Like the BJ-200 before it, the BJ-200ex is a very small printer. When not in use, it takes up little space on your desk due to its extremely upright stance. It isn't until you go to print that you need to clear some space in front of the printer so you can slide out the paper supports.

The printer can be controlled via a number of buttons on top of the BJ-200ex. From here, you can set the print mode, clean the printheads and so on. There are, however, a lot of hidden functions that can only be controlled by software. Functions like how much ink to put on to certain types of paper. On the Amiga, this is achieved using the CanonDisk software.

The bottom line for any printer is the quality of the image on paper and the BJ-200ex is very good. This is mainly due to the resolution of 360 dpi, as against 300 dpi by many competing printers. The resulting difference in quality is noticeable when printing both text and pictures. Text is sharper, while graphics contain more detail. As well as paper, you can print on envelopes, transparency and labels.

Canon BJ-200ex

Because the BJ-200ex costs so much less, because it comes with a free printer-driver, it's an excellent buy for those who only require a black-and-white printer. Being easy to set up, it's no wonder the BJ-200ex is proving to be a very popular buy.

Price: £269.95
Supplier: Canon UK
Contact: 01773 836781

Verdict: 83%

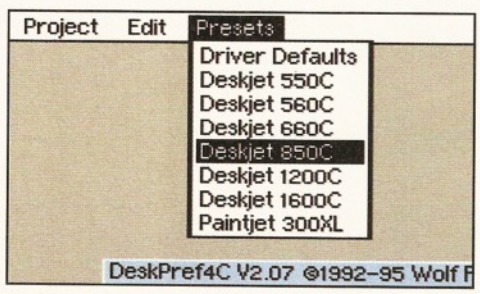
Canon BJC-4000

Colour printing has in the last six months become big business and one of the best buys available is the BJC-4000. Sticking to a design that has its origins in the BJ-200, the BJC-4000, has been designed to fit into the range between the BJ-200ex and the bigger BJC-600e and, as such, costs around £330 in the high-street, approximately £80 cheaper than the BJC-600e.

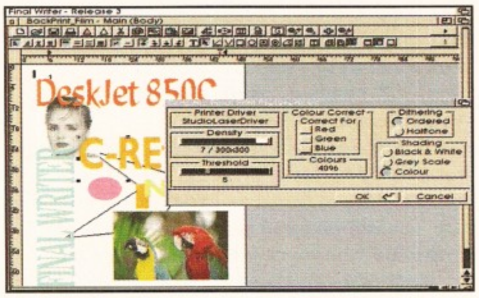
Although the BJC-4000 may appear very similar to the BJC-600e, there are some significant differences, besides the lower price. The BJC-4000 for example is quicker when printing in black-and-white than the BJC-600e. It also uses a tricolour cartridge as against the individual colour cartridges found in the BJC-600e. This is significant if you do a lot of colour printing, because the running-costs of the BJC-4000 will end up being higher since you have to replace all three colours instead of just the one you run out of.

That said, the quality of colour and black-and-white output is very good. What is especially noticeable is the lack of bleeding when you print yellow next to black. This is a known problem with many InkJets, but Canon have come up with a unique method that avoids the black bleeding into the yellow even on plain paper.

The speed of the BJC-4000 in both colour and black-and-white is also very good,



The only package that has printer-drivers for the DeskJet 850C is Studio 2 Professional.



Everyone wants to produce wonderfully colourful pages these days and the latest crop of printers are certainly no disappointment.

although the time taken to print a page depends on the amount of information the printer has to process. Most Amiga-owners nowadays are printing from graphics-based applications like Final Writer and Wordworth. The speed at which the page is printed is very much down to the printer, but also your Amiga, the application, what sort of elements you have on the page, whether your print is in black-and-white and so on.

To get you up and running with the BJC-4000, Canon provide a free driver called CanonDisk V3. Details on how you can get this are provided in the review of the BJ-200ex. The significance of using CanonDisk, besides the drivers themselves, is that the preference programs that come with CanonDisk do give you a lot of control over the colour balance of pictures, and so on, you may be printing.

Canon BJC-4000

The BJC-4000 is a very desirable printer. It's dead easy to use and the printed image very good indeed, especially if you're printing pictures using the Picture Printing Application program with Canon Studio.

Price: £330

Supplier: Canon UK

Contact: 01773 836781

Verdict: 88%

Epson Stylus Colour

This is the printer that has set new standards in quality with its 720 dpi resolution. While most printers are still 300 or 360 dpi, Epson have upped the stakes in the quality achievable in colour and in black-and-white at 720 dpi. This isn't just my opinion, but that of many people, including many of Epson's competitors who are releasing better printers in order to make up ground.

What makes the Epson special is this noticeable increase in quality that Epson have managed with this model. Even comparing 360 dpi output from the Stylus 800+ and the Colour Stylus, you can immediately see how much better the colour Stylus is. No banding or contouring in greyscale images, and in 720 dpi on the special Epson paper, the resulting colour images are as close to being photographic as you will get this side of a dye sublimation printer.

Under the hood of the Colour Stylus, you will find that it has two large-capacity ink cartridges: one for black ink and another for the three colours. These attach to a long life printhead and, although the ink for both cartridges will still cost you about £50, the cartridges do seem to go on forever in normal use. Having separate black and colour cartridges enables you to use the Colour Stylus not only as colour printer, but also for monochrome work. To be honest, the quality of its black-and-white printing just has to be seen to be believed.

To get the best from this printer, you will need to use the special paper that is made by Epson for it. There are two types: one for 360 dpi printers and another for the 720 dpi. Although the papers look the same, there are substantial differences in the coating and anyone wanting to print at 720 dpi would be better getting the paper for that resolution.

Two hundred sheets will cost you around £25. You will also need to get Studio 2 to drive the Colour Stylus. There are other drivers from Eyetech (☎ 01642 713185), for example, and, although cheaper, they aren't as fully-featured as Studio 2, which isn't yet perfect, but is as close as anyone has got so far.

Epson Stylus Colour

The opposition are catching up, but taking into account price and ultimate quality, the Epson Stylus is still the King of the InkJets. Easy to set up, near photographic colour and reasonably cheap to run. Also you can you ask for, other than a free driver!

Price: £439.95

Supplier: Epson UK

Contact: 01773 836781

Verdict: 92% Star buy

Epson UK Stylus 800+

With its bigger brother getting all the glory, many people have forgotten about the Epson Stylus 800+. This is a black-and-white printer, selling for less than £200 in many high-street PC stores. I say PC stores, because it's advertised at nearer £240 in Amiga magazines.

▶ 26

Paper wars

Once you have your printer, you need something to print on – paper, for example. Most printers nowadays are designed to work with normal copy-paper, commonly called plain paper. This type of media, however, is not designed for ink-based printers. Use a cheap copy-paper and look at the text on the page and you'll notice what is known as bleeding where the ink soaks into the paper and then spreads. This makes the edges of text appear jagged or rough and can leave you feeling that perhaps your printer isn't as good as you thought.

You need to choose a coated paper. Plain copy has an uneven surface and when you drop a spot of ink on to it, it spreads. A coated paper uses a chalk, or similar coating, to smooth out the surface to stop the ink spreading when it hits the paper. There are many types of coated papers with some manufacturers producing speciality papers.

Hewlett-Packard produce a number of types from plain InkJet paper to gloss papers that yield stunning results. Even more stunning is a special paper from Canon called BackPrint film. It's like a clear piece of film with a paper-backing. What you do is print a mirror image on to the paper-backing and then flip the film over and look at the image through the film. It's absolutely the best gloss you'll ever see, especially when you use dark colours, and costs £35 for 20 sheets. Slightly cheaper is the Canon Hi-Gloss paper which, unlike the HP paper, has a nice solid feel to it. To round off, Canon's range are coated papers and transparency film.

For those looking at buying the Epson Stylus, to achieve the best result at 720 dpi, you will need the special coated paper that Epson produce. The results of printing at 720 on normal coated paper are not good and my advice is to invest in 200 sheets of the Epson paper and use it sparingly. It costs £25, but is worth every penny. Most of the coated papers from Hewlett-Packard are widely available in places like Office World, but those from Canon and Epson are not, as far as I know. Check out the box on page 30 for contact numbers.

There are many other types to keep an eager eye out for, such as one called Zweckform which is *really* excellent. It costs more than plain paper of course, but then you won't need it for everything you print. Beware of some papers called InkJet paper, because a lot are not much more than glorified copy-paper.



For those looking for a personal colour printer, the BJC-4000 is a good choice, unless you do a lot of colour work, in which case its bigger brother, the BJC-600e, is a better choice.



The Epson Colour Stylus is the best ink-based printer around at the moment, although the competition is catching up.

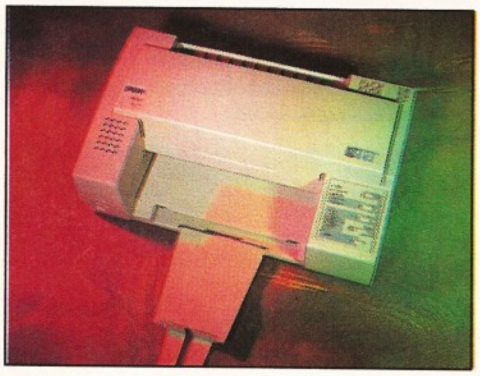
Driven mad

If I was asked what printer-problem plagues most people, my answer would be printer-drivers. 90 percent of problems revolve around not having the right printer-driver to enable the Amiga to communicate with the printer properly. What Amiga-owners need to understand is that a printer has a language all of its own. Unless your Amiga can communicate with it fluently, every now and then there is going to be a hiccup and that's when you have your problem.

The answer of course is to get the correct printer-driver for your make and model of printer. If you have a DeskJet 540, then *why* use a 500 or 550C driver when you know it's not the right one? The only package available that is compatible with most of the printers being released by major manufacturers today is Studio 2 Professional.

It's so up-to-date, the printer-drivers for many printers are usually in place before the printers have been released. It is, however, much more than just a printer-driver package. It has, for example, the first Colour Management System (CMS) on the Amiga. If you would like to know more, call LH Publishing on ☎ 01908 370230 for more details.

"If I was asked what printer problem **plagues** most people, my answer would be printer-drivers."



Well priced, the Epson Stylus 800+ is a black-and-white printer that stands up well against the others.



A good speciality printer for doing T-shirts and the like, but expensive to run.

25 ▶ With the money saved, you can get a printing enhancement package like Studio 2.

The Stylus 800+ looks very much like the Colour Stylus, but there are some rather major differences, besides it being a black-and-white only printer. You don't get the high resolution 720 dpi option, or the quality in the lower resolution modes that the Colour Stylus is capable of. Not that the output is bad, it's just not as good as that produced by the Colour Stylus. Comparing it to the Canon BJ-200ex, a printer that has the same maximum resolution and a similar price, the 800+ comes out quite well.

To get up and running with the Epson Stylus 800+, you could use the Epson Q printer-driver that comes with Workbench, but the graphics-output leaves a lot to be desired. Like many of the printers here, to produce good quality pictures, you'll need a package like Studio 2 which gives you the option of many more dithers that stop your pictures coming out looking all dark and horrible.

Studio 2 does, though, take the price of the Stylus above that of many of its competitors that do come with printer-drivers. I spoke to Epson about this and it's essentially a 'wait-and-see' attitude. They realise that it could be costing them sales, but, as they rightly point out, until the Commodore situation is sorted out, they don't want to make a decision on paying for a printer-driver to give away with their printers.

Epson UK Stylus 800+

The Stylus 800+ proved to be one of the easiest printers to get along with. It took less than a couple of minutes to set up and although it takes up a fair chunk of desk space, it's *almost* a match for the other black-and-white-only printers, like the Canon BJ-200ex.

Price: £197.40
Supplier: Epson UK
Contact: 01705 664144
Verdict: 83%

Star Micronics SJ-144

The Star SJ-144 is the odd printer out in this Supertest because it uses thermal wax transfer to place the image on to the paper. It does this by heating the wax on the ribbon in the process of transferring it to the paper, producing colours that have a vivid and glossy appearance to them. The colours don't only look good, but they're hard-wearing as well. This makes the process ideal for producing a number of things that are going to be physically handled, rather than displayed or read once and thrown away.

The SJ-144 costs only £240, although, for those that do a lot of printing, the cost of consumables makes it an expensive printer to run. The ribbon I had ran dry after only eight prints and ribbons cost about a tenner each.

Getting up and running with the SJ-144 was easy enough despite not having used one before. The electronic dip-switches were a worry, though. I'm not sure who came up with this idea, but I'm sure it was the same fellow who designed the electronic selector on my video recorder. What is wrong with a set of manual dip-switches, I don't know?

Before I could test the quality of the printer, I had to find a printer-driver and EpsonQ, the Workbench driver was the best I could come up with. It worked, but I was restricted to 360 by 180 dpi. Choosing the right paper is also a chore. Select the wrong sort and the colours print with a lot of white specs where the wax doesn't stick to the surface. Once I had found the right paper, the colours printed fine and were much more solid-looking than similar elements printed using an InkJet.

The SJ-144 is found wanting, though, when you try to print continuous tone images like photographs. One of the samples that came with the printer was a map of Europe with the member countries in different solid colours and this type of image printed fine. Unfortunately, next to this rather impressive image was one of a PhotoCD picture which really emphasised how bad the SJ-144 is in printing continuous tone images.

Star Micronics SJ-144

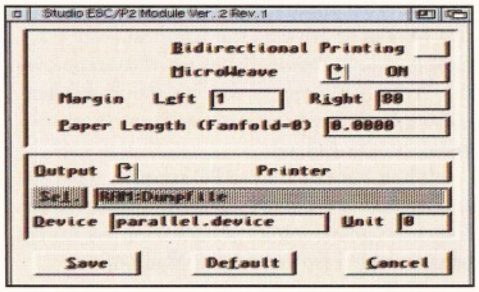
Despite the problems in getting a printer-driver, I rather enjoyed using the Star SJ-144. Unlike ink-based printers, I was able to use the SJ-144 for jobs that the other printers were not suited to, like making T-shirt transfers and so on. This really highlights the whole point about the SJ-144. It's suited to specialist applications, rather than everyday tasks of printing letters and so on.

Price: £239.99
Supplier: Star Europe
Contact: 0113 231944
Verdict: 78%

Canon BJC-600e

The BJC-600 has been around a while, but the one under review here is the very latest model denoted by the letter 'e' on the end of the model name. The differences between the old and new 600 are fairly significant. The key improvements have been the addition of new inks that help prevent bleeding, even on plain paper, and a smoothing function that gives an effective 720 x 360 dpi resolution for monochrome printing. Comparing samples produced on the old BJC-600 to ones on the BJC-600e, it is very evident that these improvements have made a difference.

The price of the BJC-600e is expected to be



Studio 2 is only one of two packages for the Amiga that provides printer-drivers and preferences programs for the Epson Colour Stylus.

around the same as the Epson Colour Stylus. The printer had only been released the week before I started the review, so street prices were not available, but expect the new model to cost the same as the BJC-600. For your money, you get a four-colour BubbleJet printer that can print at a maximum true resolution of 360 dpi.

Unlike every other colour printer here, each of the inks used by the BJC-600e are held in separate containers which don't incorporate a printhead like an ink cartridge for the DeskJet does. Never having had one of these printers for more than a few weeks, I don't know how well the printheads last, but Canon say they should be good for 6,000 prints.

The speed of the BJC-600e is impressive, to say the least. Whereas the Epson Colour Stylus took upwards of 20 minutes to process a file already printed to disk at 720 dpi, the BJC-600e sliced through a smaller file in less than a quarter of the time. There is of course a trade-off here and that is quality. Pictures and text from the BJC-600e are still not as good as those from the Colour Stylus, but the gap between the two is minor despite the difference in speed.

The quality of pictures, when printing from applications like Final Writer, was almost photographic and, in colour mode from applications like Final Writer and Wordworth 3, the BJC-600e definitely has the edge over all the other printers, including the Colour Stylus, mainly due to the printer-driver. In monochrome mode, it bettered the DeskJet 850 and Colour Stylus.

Canon BJC-600e

The BJC-600e is a brilliant printer. Still lacking that bit to match the quality put out by the Colour Stylus, it does, however, come with a free printer-driver, saving you £50 and its consumables cost, if you do a lot of colour printing, could save you even more.

Price: £449.95
Supplier: Canon UK
Contact: 01773 836781

Verdict: 91% Star buy

Canon BJC-70

I've never liked portables, but this one made me change my mind. Anyone who has the old BJ-10ex will know of the banding and so on, but the quality from the BJC-70 is indistinguishable from many of the bigger desktops. The best thing about the BJC-70 is the street price of around £220 and, although I wouldn't recommend it for anyone doing a lot of colour printing, if you do the odd bit, then take a look at the BJC-70.

Like all Canon printers, it comes with a free printer-driver, the one necessary being CanonDisk 3.1. I used Studio 2 for the tests, however, because CanonDisk 3.1 wasn't available at the time – the results are likely to be the same. The monochrome printing was done using the separately available BC-10 printhead and cartridge. For colour and monochrome work, you can use another printhead, the BC-11, which prints using four colours: Cyan, Magenta, Yellow and Black. Paper handling is also very good, with the sheet feeder taking 30 sheets at any one time.

Canon BJC-70

Using the BJC-70 was very simple and the quality comparable with the desktop printers. It's cheap, prints in both colour and black-and-white and there's a free printer-driver for it. With none of the banding of the old BJ-10ex, I can't fault it other than to say that text is not as sharp as on the bigger Canon models. It's definitely as good as the Hewlett-Packard DeskJet 320.

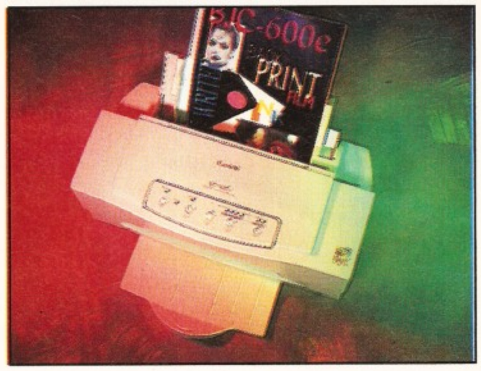
Price: £230 approx.
Supplier: Canon UK
Contact: 0181 5234020

Verdict: 88%

Canon BJ-30

A monochrome-only printer that should sell for well under £200. At the time of writing, the high-street stores haven't even seen it, so prices are not yet available. The BJ-30 is the baby-brother to the BJC-70 and is very similar in

▶ 28

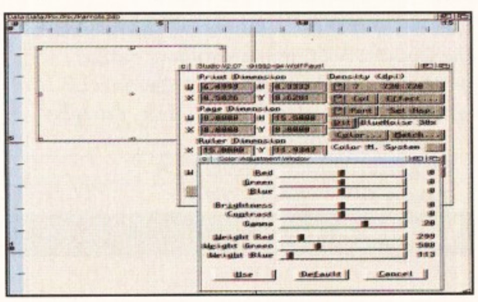


The only printer that comes close to the Colour Stylus for quality and value is the Canon BJC-600e.



Unlike the old portables, the Canon BJC-70 produces output comparable to the much bigger desktop models.

"The **speed** of the BJC-600e is impressive, to say the least."



Printing pictures that look like photographs has not been easy until now, with printers like the Epson Colour Stylus and software such as Studio 2.

Sticky business - InkJet labels

Once upon a time, the only labels you could get for a printer were tractor-fed ones, which aren't a lot of good for most ink-based printers. It didn't take long though before Avery, a company well known for sticky labels, saw a market opening and started producing a variety of labels for both lasers and ink-based printers.

There are a number of different packs available for ink-based printers, varying in sizes, number of sheets and also in the type of printer to be used. There are, for example, two different packs of address labels available: one for black-and-white and another for colour ink-based printers. You also get a bonus Eurofolio when you buy Avery InkJet labels!

The quality of the labels is excellent and I never had any problems with labels coming adrift in the printer, or the ink not sticking. Having only ever printed labels on my black-and-white laser, having the freedom to do some in colour was a wild experience and one I can recommend. If you want to know more about the labels available, call Avery's freephone number ☎ 0800 805020 during normal office hours.

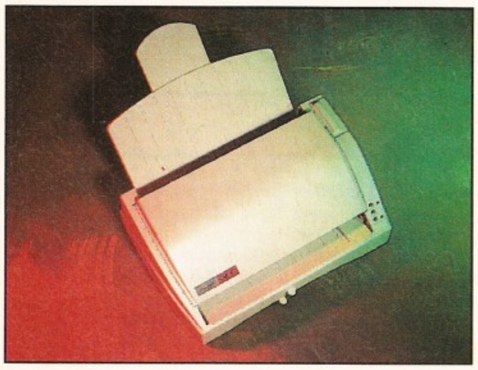


The Canon BJ-30 is a portable black-and-white printer that produces great quality at under £200.



The most expensive printer reviewed here, the quality from the DeskJet 850C compares very well with the Epson Stylus.

"The HP DeskJet 850C is **aimed** at the person doing a lot of printing in both black-and-white and colour."



The Citizen ProJet IIC is a cheap and cheerful colour and black-and-white printer that will be better served with a decent printer-driver.

that it has the same 30-page sheet feeder and uses the same printhead as the BJC-70 does for monochrome-only work. The quality of the output is as good as the BJC-70, and comparable to that of the BJ-200ex, which is more expensive, but capable of higher volume work.

Cannon BJ-30

Excellent printer for low volume monochrome-only printing. Dead easy to set up and whisper quiet.

Price: £150 approx.
Supplier: Canon UK
Contact: 0113 231944
Verdict: 85%

HP DeskJet 850C

A new model to show its face in the InkJet market is the Hewlett-Packard DeskJet 850C. This has been designed to fit into the market between the new DeskJets, the 660C and 1600C. The main feature of the 850C is speed and durability. In other words, it is aimed at the person doing a lot of printing in both black-and-white and colour. The DeskJet 850C has another notable feature in that it can print 600 by 600 dpi in black-and-white. The colour mode is still 300 by 300 dpi.

Like the 540 and other DeskJets, there is no control panel on the 850C and to print in 600 x 600 dpi you will need a program like Studio 2, which has the necessary button to turn this on or off. Studio 2, however, does not have all the software controls a printer like this requires.

Everything, including the cleaning cycle, printhead alignment and so on, are controlled by software and, you guessed it, while this is part of the drivers for the PC and Macintosh, the Amiga misses out. This affected the review, because more than once nozzles became blocked with no way of telling the printer to clean the heads. Wolf Faust, author of Studio 2, may include these functions at a later stage, but at the time of writing, he's in my home-town of Brisbane, Australia taking a well earned rest, doing a spot of travelling.

Despite being restricted to 300 dpi, the 850C boasts Colour Resolution Enhancement technology or C-REt. This is a new technology by Hewlett-Packard that controls the amount of ink applied to each pixel in order to achieve an improvement in colour print quality without a great loss of speed.

The results, even with Studio 2 not fully supporting it, are at this stage very good, although I have to admit to not being able to match the sample-print from a PC, which was stunning to say the least.

What it lacks in colour mode, though, it makes up for in black-and-white. Greyscale images are good and very small text quite sharp, even on plain paper. It does not match the quality from a 600 dpi laser, though, when used from an Amiga.

HP DeskJet 850C

Costing more than £500 (with Studio 2) you would expect good quality and the DeskJet 850 does not disappoint, producing pictures and text almost as good as the material from the Epson Colour Stylus. It has an advantage over the Stylus, however, in that it's much quicker, although software control needs to be much better on the Amiga.

When bought from a PC supplier, the cost is only £10 or so, more than the Epson Stylus. Just don't go asking for a driver for the Amiga because you'll be met with a blank face.

Price: £460 approx.
Supplier: Hewlett-Packard UK
Contact: 01705 664144
Verdict: 86%

HP DeskJet 660C

We were hoping to do a proper review of this model, but it's so new that review printers were not available at the time of writing.

The DeskJet 660C is the model that replaces the DeskJet 560C. The main new feature that has been added, besides the new shape common to all the new DeskJets, is a 600 x 600 dpi mode in black-and-white. This has been added to give laser-like black-and-white output while still retaining the ability to print high quality colour images at 300 x 300 dpi.

Although many will see the lower resolution for colour printing as being a drawback compared to the 720 dpi possible on the Epson Stylus for example, Hewlett-Packard quite rightly point out that colour quality isn't always related to resolution. In many respects this is correct, especially on the PC with HP's ColourSmart software.

On the Amiga, however, without ColourSmart, colour pictures from the 660C are very similar to the quality achieved on the 560C. While the pictures from a Colour Stylus look almost photographic, those from the 660C are noticeably less so.

We can only hope that Hewlett-Packard adds to the 660C its new C-REt technology found in the DeskJet 850C, to improve dramatically the quality of colour images without the speed penalties a printer like the Colour Stylus seem to pay.

With the introduction of the 660C, also comes a new pigment-based black ink which is supposed to stop the bleeding between colours such as black and yellow. Without having one to test though, I'll have to take Hewlett-Packard's word on this.

HP DeskJet 660C

The DeskJet 660C is the model that replaces the DeskJet 560C and it's so new, review printers were not available at the time of writing. We'll keep you up-to-date, though.

Price: £440 approx.
Supplier: Hewlett-Packard UK
Contact: 01773 836781
Verdict: n/a

Citizen ProJet IIC

The ProJet IIc is the latest version of the ProJet II from Citizen Europe. Like the 540 from

▶ 30

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Final verdict

If you want the best value printer that gives the best quality, then the Epson Colour Stylus is the one for you. Costing almost £500 with Studio 2, this printer is still the best there is.

It's a little slow perhaps, but then it's quality that counts and the Epson produces page after page full of it. The Canon BJ-600e runs it close though. An outsider to watch is the DeskJet 850 which is better than the BJC-600e, but the software to drive it and the 660C is still in development.

As far as the low-cost printers go, the Canon BJC-4000 is excellent, as are the smaller portable BubbleJets. The 540 is cheaper, but needs Studio 2 to come close to the quality you can get with the BJC-4000. The threat in this market is going to be the ProJet 3 when it's released. The prototype looks good and they're chasing the Epson-lead in giving high-resolution output at a value-for-money price.

Contact numbers

For more information on these printers you can contact the following companies:

Canon UK	**☎ 0121 666 6262**
Epson UK	**☎ 0800 289622**
Star Micronics	**☎ 01494 471111**
Hewlett-Packard	**☎ 01344 369222**
Citizen Europe	**☎ 01753 584111**
Gordon Harwood	**☎ 01773 836781**

28 ▶
Hewlett-Packard, the ProJet IIc can be used as a monochrome-only printer, or, by inserting a colour cartridge, as a colour printer as well.

The colour cartridge is a tricolour, containing Cyan, Magenta and Yellow inks which, when you want black, are all mixed together to produce a reddish black. This doesn't produce the same quality of colour as you would get from a four-colour printer, like the DeskJet 660C, or the BJC-600e/4000, although the ProJet IIC is quite substantially cheaper (£250) than either of the aforementioned models.

Reviewing the ProJet IIc wasn't plain sailing, though. The software supplied was in beta version and didn't do the printer justice. A DeskJet 500C driver will work, but, again, the results are poor because of the printer-driver, not the printer.

In the end, I used Studio 2. The black-and-white results after a lot of fiddling would probably satisfy most users, although *do* remember that Studio 2 costs £49.95. Colour printing, however, was disappointing and I guess we'll have to wait for Citizen Print Manager to be finished before judging its colour output.

Thanks to Citizen for their help beyond the call of duty during this review.

Citizen Project IIC

It took a while, but eventually I managed to get monochrome results comparable to the DeskJet 540, thanks to Studio 2. For colour work, Citizen Print Manager produced reasonable results, but we'll have to wait until it's fully functioning before passing judgement on the ProJet's colour capabilities.

Price: £259
Supplier: Citizen Europe
Contact: 01132 319444
Verdict: 83%

Citizen ProJet 3

Don't say we don't bring you the latest news, because this printer is *so* new, it isn't even in production yet.

This is the monochrome-only ProJet 3, which is a lot different to the ProJet 2, also reviewed here. Like Epson, Citizen is now embracing Piezo technology giving the ProJet 3, 720 dpi capability.

With the lead that Epson have built up with the Colour Stylus, it's a good move by Citizen to move forward and take on the others with a printer that should be more than a match for the other manufacturers.

Citizen ProJet 3

With the printer being a prototype and the software in beta version, it would be wrong for me to try and give a definite verdict on such an unfinished printer. What I have seen though, bodes well for the future because Citizen have always been very loyal to the Amiga and pretty soon Amiga-owners *should* have yet another superb printer to choose from. ■

Price: n/a
Supplier: Citizen Europe
Contact: n/a
Verdict: n/a

Comparison chart

Printer	High-street price	Resolution	Quality (out of 10)	Colour	Printer-driver
Colour Stylus	£439.95	720 x 720 dpi	9 B/W, 10 Colour	Yes (Special paper)	Studio 2 Professional
Stylus 800+	£197.40	360 x 360 dpi	7.5	No	Studio 2 Professional
BJC-600e	£449.95	360 x 360 dpi	8.5 B/W, 9 Colour	Yes	CanonDisk 3.1 (Free from Canon)
BJ-200ex	£269.95	360 x 360 dpi	8 B/W	No	CanonDisk V3.1 (Free from Canon)
BJC-4000	£329.95	360 x 360 dpi	8 B/W, 8 Colour	Yes	CanonDisk V3.1 (Free from Canon)
BJC-70	£230 approx	360 x 360 dpi	7.5 B/W, 7.5 Colour	Yes	CanonDisk 3.1 (Free from Canon)
BJ-30	£150 approx	360 x 360 dpi	7.5 B/W	No	CanonDisk V3.1 (Free from Canon)
DeskJet 540	£229 (+ £30 colour kit)	300 x 300 dpi	8 B/W, 7 Colour	Yes	Studio 2 Professional (WB 500C driver poor results)
DeskJet 850C	£459	300 x 300 dpi 600 x 600 dpi B/W 9	Col 8.5	Yes	Studio 2 Professional
SJ-144	£239.99	360 x 360 dpi	6.5 B/W, 6 Colour	Yes	Studio 2 Professional
ProJet IIC	£269.00	300 x 300 dpi	7 B/W, 6 Colour	Yes	Citizen Print Manager

- All printers come with integral sheet feeders for cut sheet paper.
- Studio 2 Professional is available from LH Publishing ☎ 01908 370230.
- CanonDisk is only available separately from Canon UK.
- Citizen Print Manager available from Citizen Europe
- Many of the Canon printers listed above have an 'effective' black-and-white resolution of 360 by 720 through the use of a smoothing function.
- Epson Stylus. Although you can print at 720 dpi on any paper, you will only see the benefits of this resolution on the special Epson paper.

"Hesitation is the thief of time"*

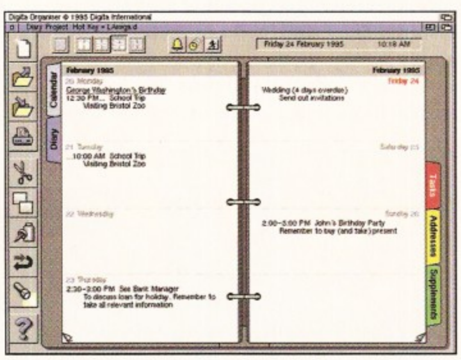
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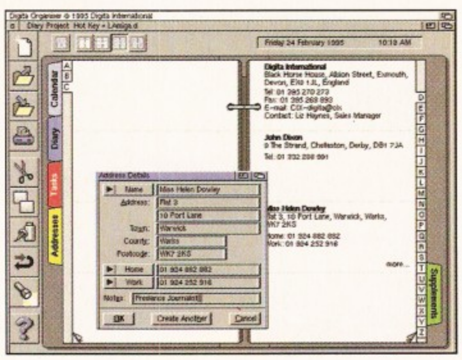
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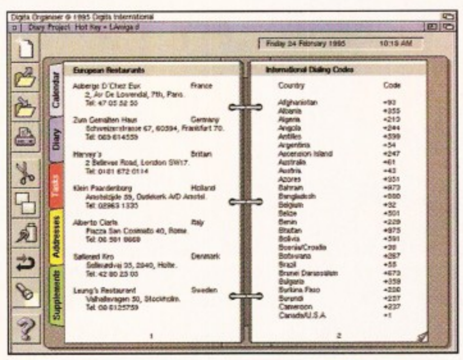
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Reader talk

*Would you consider it mad to buy a full Amiga set-up and start your own graphics business at an all-time Amiga low? **Anna Grenstam** talks to the guys in the The Room Upstairs and finds out why they didn't think so.*

It has been a difficult year for the Amiga and a nerve-wracking year for all you Amiga users out there. Escom has now officially bought up Commodore and new machines should be available in the shops shortly. All the more credit to all of you who believed in your machine and stuck it out through thick and thin.

Three such devoted fans are David and Peter Clarke and Euan Leckie. They not *only* believed in a future for the Amiga, they actually bought a full Amiga graphics set-up and started their own business – The Room Upstairs – in November 1994. Were they fool-hardy, gullible, or just plain mad? No, they simply knew that the Amiga reigns as the "king of graphics" and believed firmly that a machine that good would not die.

How did it all start?
Mine (David) and Euan's backgrounds are almost exclusively in marketing, sales and promotions. Euan is presently involved with music publishing, working on a project with Jon Anderson of Yes, Don Black and Malcolm McLaren. Peter has an artistic background – he spent five years at an art college in San Fransisco, using computer technology.

Peter came back a year and a half ago and the three of us started to play with the idea of starting a graphics-based business together.

Once we decided to give it a go, we bought, with the bare minimum of money we had, the first Amiga 4000/040. We had a copy of Imagine from one of the Amiga magazines and that was *basically* how we started out.

It wasn't until the end of November 1994 that we had managed to put enough money together to buy the Personal Animation Recorder (PAR), LightWave and other bits and pieces we needed to start working on our demo tape. We literally spent three months slugging our guts out to finish that demo tape and for the last five weeks we have been sending it out and are now talking to various people about it.

Have you had any feed-back on the demo yet?
We've had some interest from a couple of bands; we spoke to a chap at Hattrick Productions who also expressed an interest in us; we are looking at a project for the Edinburgh Festival – they are interested in doing a looping computer-animated piece on show at their headquarters; we've had no *negative* feed-back so far – it's very encouraging.

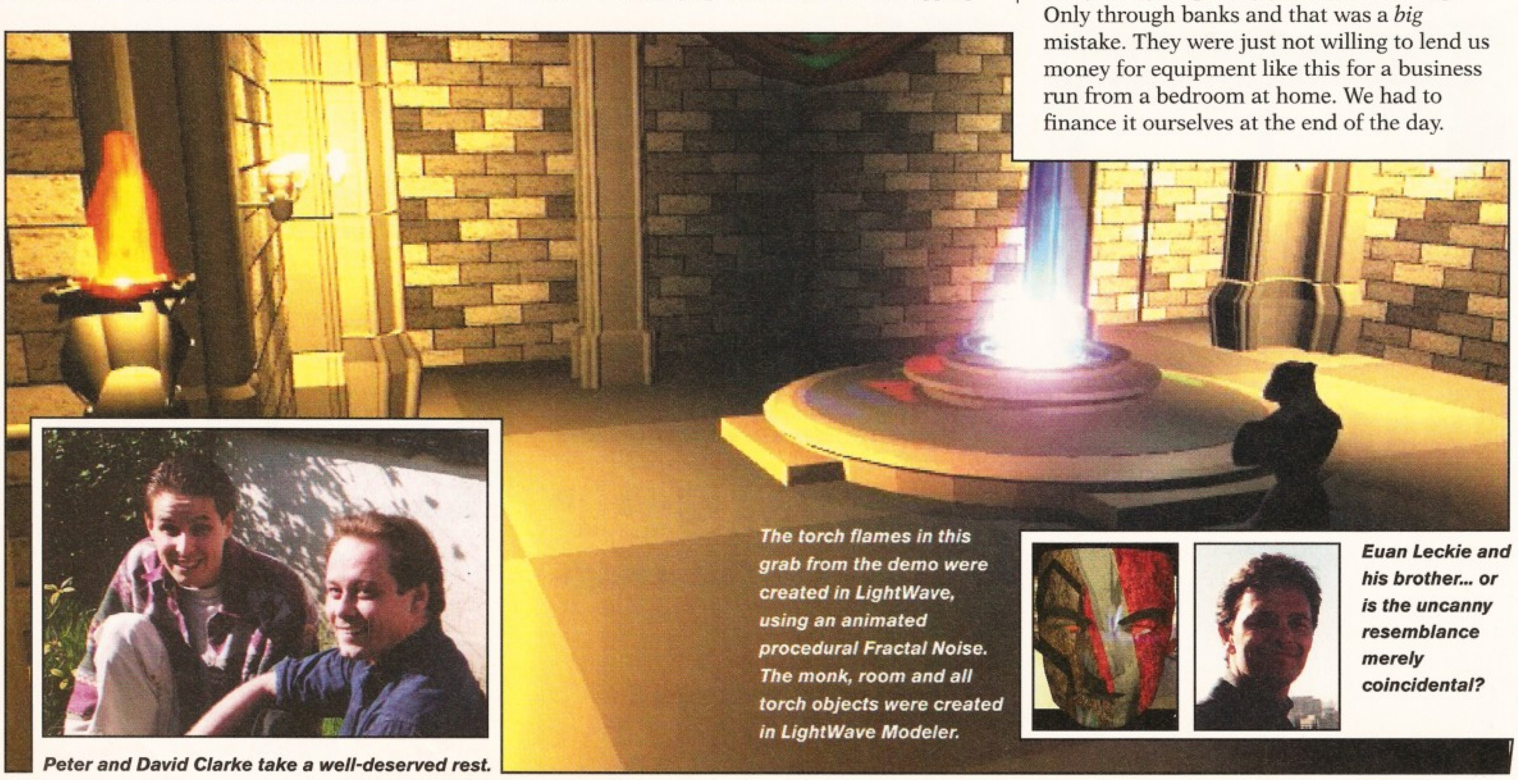
Why did you choose an Amiga set-up as the base for your business?
Well, at art college in the States I (Peter) used Macs for all the still-work and DTP, mainly using Photoshop. For DTP and word processing, Macs are brilliant, but when it came to the animation classes, it was absolutely ridiculous – these stick figures were basically moving around the screen. Awful!

In comparison, I had Deluxe Paint and an Amiga at home and knew what you could do with just that. Ever since, I have been more interested in video with the Amiga – it is just *far* more exciting and the software is excellent.

I never really looked at PCs – I saw the price of 3D Studio and thought "Aagh, I can't afford that". Also, when I saw it running, it looked like you had to be a fully-fledged computer programmer to get anything out of it.

Was it expensive to start out?
With a set-up like this, it is not a horrific amount of money considering what we have *actually* got. Compare it with a similar non-Amiga set-up and it is excellent value. If you haven't got fifteen thousand quid lying around, the Amiga reigns as the king of graphics.

Did you try to get any financial backing?
Only through banks and that was a *big* mistake. They were just not willing to lend us money for equipment like this for a business run from a bedroom at home. We had to finance it ourselves at the end of the day.



The torch flames in this grab from the demo were created in LightWave, using an animated procedural Fractal Noise. The monk, room and all torch objects were created in LightWave Modeler.

Peter and David Clarke take a well-deserved rest.

Euan Leckie and his brother... or is the uncanny resemblance merely coincidental?

Tell me about your demo tape?
Our demo tape is very much done for people who already know something about computer graphics – it makes more sense if you do.

So, what we are trying to do now is a tape with the sort of stuff people would recognise on TV as being flying logos – more corporate stuff. Less glamorous, perhaps, but more recognisable for most people. It's the sort of stuff that keeps you going – the bread and butter stuff.

Did you have any problems producing it?
Rendering was our biggest problem. When you say to somebody that we are doing a six minute animation, they wonder why on earth it isn't finished yet. In actual fact, *we* did very little for three months, because the machines were working night and day rendering. People seem to think that because it's a computer it does *everything* instantly.

How long did it take to put the tape together?
Trying to do stuff when we didn't have the PAR and LightWave was difficult. We spent a lot of time in a transitional phase, gradually buying new equipment. If we were to do it all again with the set-up we've got now, it would probably take a couple of months.

What software do you use?
We've got Imagine, LightWave, Vista Pro, OpalPaint, Morph Plus, ADPro, WaveMaker, Forge, Humanoid, AmiBack, Directory Opus and a few other PD programs. Most of them were used for our demo tape.

And hardware?
We've got two A4000/040s. One has an OpalVision card, 24-bit graphics and 8Mb RAM; the other has a Studio 16 card and 16Mb RAM. More RAM is the next thing to buy.

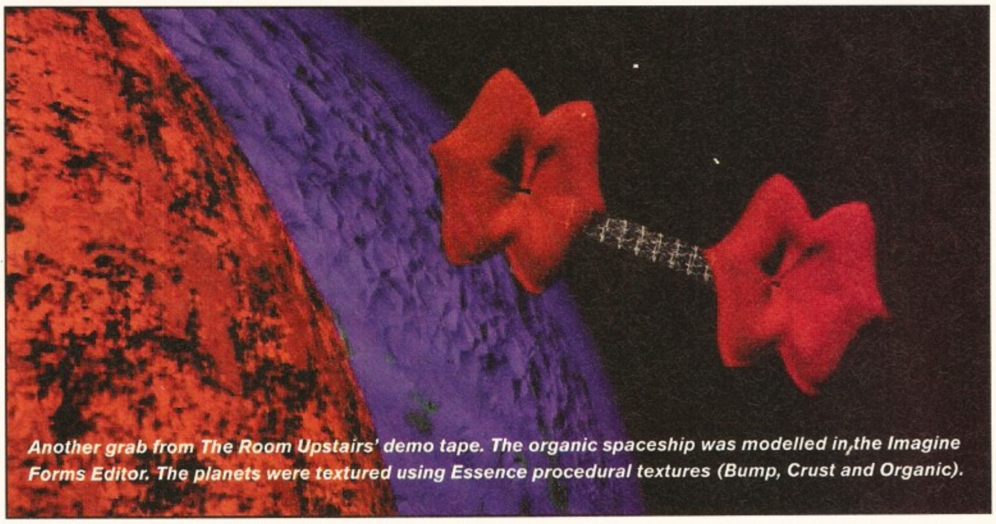
We've also ordered a DEC Alpha 275 (costing around £8,700), because speed is *essential*. In addition to that, we've got a CD-ROM, a modem, printer, camcorder etc.

Where are you trying to pitch yourselves as a business?
We obviously can't compete with the guys who spend 20 million quid doing Star Gate, but on the other hand we can offer a service to, for example, bands who up till now would never have access to computer graphics for their music videos. That is the sort of niche we are hoping to corner.

Do you try to keep it as a "nine to five" job?
No, you can't structure your day like that. You spend time working on a scene and inevitably you have to stop to render it off to see what it actually looks like. It's not nine to five – it can be from 7am till 11pm, but it doesn't *feel* like work because it's something we love to do.

If you could have anything you wanted developed for the Amiga, what would it be?
Something to speed up the rendering time even further. That really is the *only* problem we have with the machine.

On the software side – as long as they keep on enhancing LightWave you can't go wrong.



Another grab from The Room Upstairs' demo tape. The organic spaceship was modelled in the Imagine Forms Editor. The planets were textured using Essence procedural textures (Bump, Crust and Organic).

We would, however, like to see Photoshop for the Amiga – Photoshop is truly excellent.

What would your dream assignment be?
The guy who did the original music for our demo tape, Linus, has got a record contract in Germany. What we are now trying to do is push for a budget to go off and do a music video for a single he's done. The track is a very lively dance piece – typical mainstream club stuff. That is what we want to do next.

What do you think about the quality of music videos in general?
If you watch MTV Dance about 10.30pm on Thursdays, you can see a whole host of nasty computer graphics videos.

I get very irritated when I see videos that are 90 per cent made up of looped material; or when I see a shiny sphere stuck in the middle of the screen with lots of other shiny spheres going around it; and if I *ever* see a taurus in a video, I switch it off. I hate stuff that is just *so* unimaginative – where they've just taken the objects that come with *any* package and then simply stuck them on an arbitrary surface.



The Room Upstairs is literally the room upstairs.

What would you like to do that is different?
You can do so much more, even by just clicking a few buttons on LightWave. We've come up with a storyboard for Linus' track and want to do something different that has actually got some *meaning* as well. We'll try to get away from the "Hey, this is a computer-generated video", to "Hey, this is really cool – wow, was *that* done on a computer?".

Have you got any graphics heroes?
Mr Spielberg's Amblin and Lucas. Working for them would be a dream job. They never cease to amaze us. I remember seeing Terminator 2, thinking that this is as good as it gets special effects-wise... and along comes Jurassic Park!

Where do you see it heading in the future?
We certainly don't want to grow to the point where we just sit in a huge boardroom, nowhere *near* a machine. The way we see the future is that there are going to be a lot of people like us, doing similar things, and we'll end up as a networked group that could produce something quite spectacular together.

What would you like to say to Escom who have now taken over Commodore?
Well, just to promote the Amiga as a serious machine. They are good games machines, but not first and foremost. They should have completely separate names for the Amiga as a *games* machine and as a *serious* machine.

I hope they will *emphasise* the graphics side of the machine. The Amiga always seems to come out top in various reviews as *the* graphics set-up to have – it seems like a missed opportunity not to develop that side more.

Of all the machines I've used, the Amiga is by far the easiest to use. I've never managed to get a PC to actually *work* properly and Macs are, on the other hand, too user-friendly for some applications.

What would you say to people hoping to make a career out of their graphics dabbling?
Experiment! Don't be afraid to make mistakes. Try things out. You can't go in with a clear picture in your head of what it's definitely going to look like, because the computer will *always* give you its suggested version.

Don't get too frustrated with it and if you do, leave it and come back to it later. It's literally a giant jigsaw puzzle and answers will often be staring you in the face, but if you have sat at the machine for hours, you might miss it.

Do you ever miss the stability and security of a "normal" job?
No! The *truly* scary thought is thinking "we really love to do this, what if we can't do it any more". Once you have tried working with something you love, you just don't want to go back – this is our idea of Heaven. ■

CyberStorm 060

Put on your safety goggles, check your seat belts and test your air bags – this Amiga is pretty much as fast as it gets. **John Kennedy** *braces himself and gets as close as he dares.*

The CyberStorm is special – it's the first accelerator card for the Amiga based on the 68060 chip, which basically means if you are lucky enough to have one you have the fastest stand-alone Amiga in the world. The advertisements claim a staggering performance of 80 MIPSs (eighty million instructions per second) which compares rather favourably with the first Amigas which clocked up less than 1 single MIPS.

The bad news is that you need an A4000 system before you can fit the CyberStorm, so, unfortunately, A1200s are out. Even A1200s fitted in Tower cases are out, as the CyberStorm doesn't fit into a Zorro slot (2 or 3), but instead uses the special CPU slot which is only present on the A4000 and A3000.

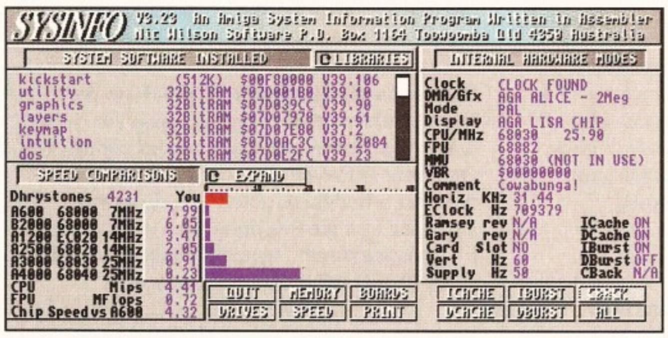
(Apparently, because the CPU slot in the A3000 and A4000 are very similar, it should be possible to fit the CyberStorm to the classic A3K, but because of the way in which the A3000's slot is positioned, the card won't fit properly. If you were prepared to alter the casing, there might be room, but we were unable to confirm this. It's best not to get too excited A3000 owners, unless you can check this.)

The CyberStorm replaces the existing processor card and therefore you need to throw away the existing 68030 or 68040 processor present in the Amiga (although 040s, especially, have a good second-hand value). The CyberStorm is a modular system which consists of a base board, a processor board and a memory board.

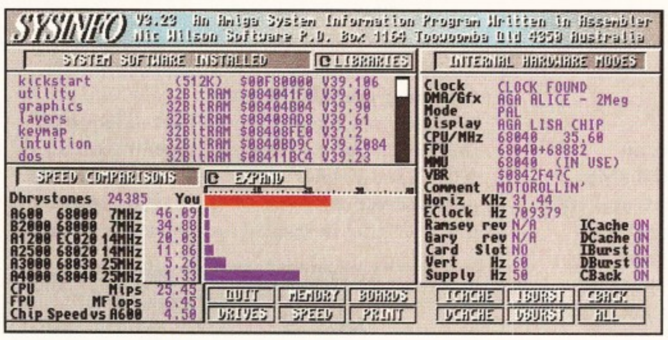
Beefing up an A4000

At the moment there are really only two ways of beefing up an A4000. The first is to buy a Warp Engine card, which includes a 68040 running at either 28, 33 or 40Mhz. The Warp has four SIMM sockets and a built-in SCSI-2 Interface. When released, a 68060 upgrade was promised for some time in the future.

The second option is a CyberStorm, which is available in 40Mhz 68040 or 50Mhz 68060 flavours. Both can be fitted with SCSI-2 and other Interfaces and the 68040 can be upgraded to use the 68060. Rumours of a DSP board for the CyberStorm providing all sorts of amazing facilities make for entertaining Internet threads and I, for one, certainly would like to see them happen.



The original 25Mhz 68030 card which came with the A4000/030.



The Warp Engine 28Mhz 68040 already outperforms the A4000/040.

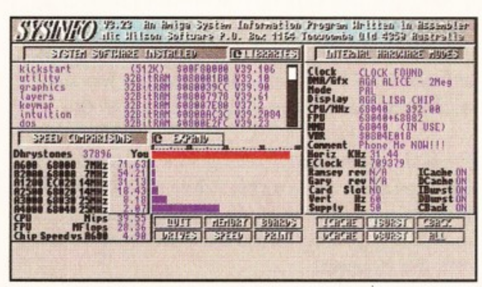
There is provision for adding another peripheral card to the processor board itself, and two cards have so far been advertised: a SCSI-2 card (for hard drives, CD-ROM drives and so on) and a general-purpose card consisting of a SCSI-2, Ethernet link and high speed serial Interface.

The processor card is what makes this version of the CyberStorm special, though, because it has a Motorola 68060 on it, running at 50Mhz. The 68060 is the last of the Motorola 680x0 series, since it pushes the current design for CISC (Complex Instruction Set Computers) to the limit. It is very compatible with the 68040 and the majority of software will run with no modification whatsoever, apart from the increase in speed, of course.

Installation

Installing the CyberStorm is one of those 'only-want-to-do-it-once' operations, as you will need to strip the A4000 down quite a bit. It might be a good idea to treat yourself to a Tower case at the same time, since this will make fitting the card a lot quicker. Perhaps the hardest part of the entire process is summoning the courage to rip out the existing processor card, but once this has been done the CyberStorm clips neatly into place. To keep the temperature down, there is a small fan mounted on top of the 68060, which needs to get power from the disk-bay power connectors. The 68060 seems to run cooler, which is mostly due to the lower voltage requirements (three volts instead of five volts)

The memory SIMMs from the Amiga motherboard are moved to the memory module of the CyberStorm, as the new processor is able to address them much more quickly than the old; itself a major speed-up factor. Unlike the Amiga motherboard (which will only take 1Mb or 4Mb



The CyberStorm 50Mhz 68060 is the dog's bollocks.

Jargon buster

CISC – Complex Instruction Set Chip; a CPU, like the 68060, has many basic instructions which it can use. Although powerful, these instructions can take many cycles to perform. See RISC.
CPU – Central Processing Unit; the chip at the heart of a computer that actually runs programs by performing calculations and controlling the hardware which generates video and sound. The Amiga has always used the 680x0 family of CPU from Motorola: the 68000, 68020, 68030, 68040 and now 68060. (The 68010 offered very little performance increase over the 68000, and the 68050 was scrapped on the drawing board).
MMU – Memory Management Unit; part of a CPU that provides virtual memory or re-mapping features.
FPU – Floating Point Unit; a sub-section of a CPU (also available as a separate chip for 68020s and 68030s) which perform sums very quickly. Especially useful for for image rendering and ray-tracing programs.
MIPS – Millions of Instructions Per Second; a rather poor way of measuring a chip's performance (how can you tell the relative usefulness of the instructions?)
Mhz – Megahertz; a measure of frequency, in this case a 50Mhz chip is running internally with a clock that "ticks" fifty million times a second.
RISC – Reduced Instruction Set Chip; a CPU which has much simpler instructions than other CPUs, but manages to execute each one in a single clock cycle.

Test results

LightWave (time for a hi-res render with shadows)

Warp Engine 68040 / 28Mhz	940 seconds
Warp Engine 68040 / 33Mhz	807 seconds
CyberStorm 68060 / 50Mhz	407 seconds

Imagine (hi-res scanline render)

Warp Engine 68040 / 28Mhz	289 seconds
Warp Engine 68040 / 33Mhz	251 seconds
CyberStorm 68060 / 50Mhz	119 seconds

SIMMs), the Cyber memory board will happily take up to four 32Mb chips for a whopping 128Mb of RAM. Construction seems to be of high quality and the SIMM sockets are certainly better than many I have seen (and broken).

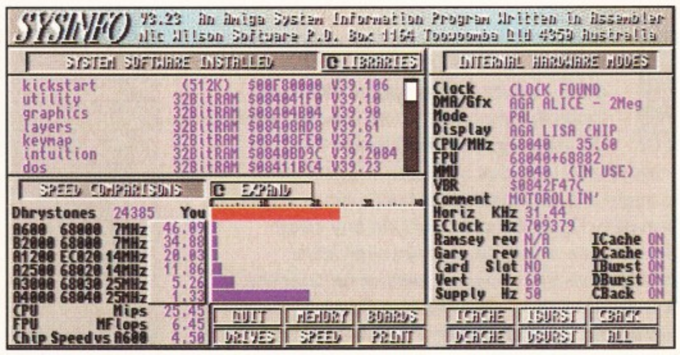
If you already own a CyberStorm 68040 card, then you will be pleased to note that it is possible to upgrade to the 68060 by swapping only the processor board. This upgrade will cost about £400 to £450 and your existing memory board will work perfectly well with the new processor. The upgrade in this instance will only take a few moments.

The only changes in terms of software consist of replacing the 68040.library and adding the new 68060.library. Everything else is invisible, so you can load up Imagine or LightWave and get on with rendering. The 68060 has a Floating Point Unit built-in, so the 'FP' versions of existing programs will work best. Some software is supplied to provide Enforcer-type use of the 68060's MMU and some routines to help track down any possible problems and naughty floating point programs.

Maybe it's the power of suggestion, but even re-booting with the new processor and moving a few windows around felt a lot faster with the 060 than with a tired old 68040 system. All my existing software worked perfectly, although a few fractal programs and Benchmark programs went haywire. Imagine rendering fans will be the first to demand the hard facts; just how fast is the new card? Is it worth upgrading?

The answer to the first question is easy; it's about twice as fast as a 28Mhz 68040 Warp Engine. Run SysInfo on your system to see how it compares with the screen-shots. SysInfo comes in for a lot of criticism, but, in this instance, it seems its speed estimates are confirmed by timing real programs, running real tasks.

The Warp Engine 33 Mhz 68040 is even faster than its 28 Mhz little brother.



The hidden benefits of having a processor this fast become apparent when you remove it and go back to a 68040, or (heaven forbid) a 68030. No longer will Imagine or LightWave quick renders take less than 10 seconds. Wireframe redraws seem to take forever and don't talk to me about image processing...

As to value for money, that depends on what you do with your Amiga. If you use it for a business which depends on number crunching, then being able to get more work done in the same time makes obvious economic sense. If, however, most of your computer-use is for your own pleasure, it might be hard to justify a grand on something which weighs less than a potato.

Sure, this kit rates highly on the 'kit-lust' factor, but do you need it? Heck, of course you do, but the real question is whether your significant other thinks so too. The old "it only cost fifty quid dear" ploy might work here if you are lucky, since one circuit board can look very like another to the untrained eye – even ones that have chips marked "foo" and "bar" and which label the Amiga Interface as the "bottleneck".

Conclusion

The CyberStorm gives the professional Amiga-user – and therefore, presumably, the dedicated LightWave-user – a real choice when it comes to increasing performance. After the CyberStorm, the next cheapest upgrade is about £5,000 for an Alpha-based Windows NT workstation connected via Screamernet. Now, pro-users can double their output with one simple plug-in card.

The home-user who may be considering buying an accelerator for the A4000 now has to choose between the 68040 and the 68060. The price difference is relatively small and the decision only gets harder when you take SCSI-2 Interfaces into account. For example, the Warp Engine is more expensive than the CyberStorm, but does include a SCSI Interface as standard. The Warp Engine is apparently upgradable to run a 68060, but we've yet to see any prototypes or hear any dates.

In short, if you want the fastest Amiga in the world, you have no option. Stick a CyberStorm in your Amiga and it's unlikely you'll see Imagine running faster elsewhere. ■

A comparison of the 68060 and other processors

The 68060 has been described by some as too little, too late. It is an amazing design with over 2.5 million transistors and two 8K memory caches for data and instructions. The official blurb describes it as employing "a deep pipeline, dual issue superscalar execution, a branch cache, a high-performance floating point unit and dual on-chip demand paging MMUs." Incredibly, the chip can execute two integer instructions (or one floating point and one integer instruction) and a branch instruction simultaneously.

So, it is extremely fast – the 060 is finding it difficult to measure up to the competition. Its performance is probably close to that of a P60 Pentium, but it is extremely unlikely that it will ever be manufactured in close to the same numbers which will keep prices high. Even stalwart 680x0 Apple-users have moved to the PowerPC platform, a processor so smart and fast it can actually emulate a true 680x0 processor very quickly.

The advantage to the 68060 is that as a drop-in replacement for the 68040, it works very well. You don't need to re-compile the Amiga Operating System to take advantage of the speed – everything is simply faster.

The new owners of Amiga, Escom, have made plenty of noises about PowerPC-based computers and if one does appear, it certainly will be a staggering machine. Before the 'great collapsing Commodore disaster', the talk was about Hewlet Packard RISC-based Amigas, but this is starting to seem a lot less likely than a PowerPC version.

CyberStorm 060

Price: £995
Supplier: Harwoods
Contact: 01773 836781

Verdict: 95% Star buy

Directory Opus 5

A long-time devotee of Directory Opus 4, **Graeme Sandiford** *is euphoric now that version 5 of this fantastically powerful and well-designed file manager program is out.*

It's not often that I leap at an opportunity to review a product, but when Sue asked me if I would like to review Directory Opus 5, I shocked her by virtually tearing the package from her grasp. Okay, I admit that it was due in part to the fact that I thought it was going to be easy – since I use Directory Opus 4 more than I do any other program on a daily basis. However, it's a product I've been eagerly waiting for over the last six months or so. Directory Opus 4 may not have been the most glamorous of programs, but it has certainly been one of the most popular over the years.

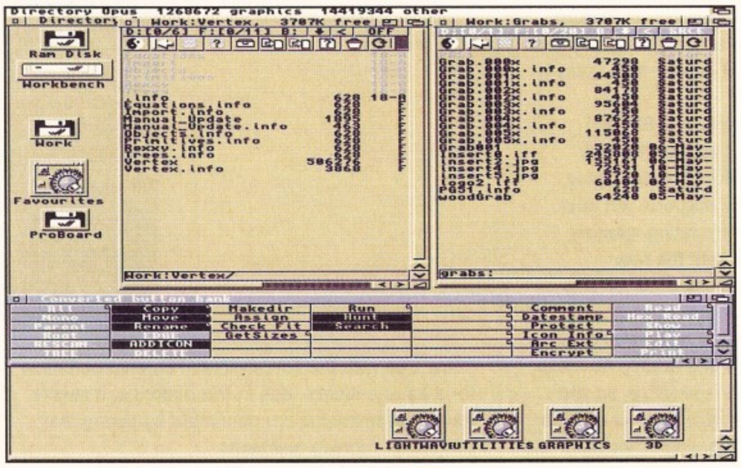
I feel obliged to include this paragraph to explain what Directory Opus is, just in case there are some Amiga-users who have never used it – hey, it's a big universe – so you may want to skip the next few lines if you're already a user. If you are not a user of Directory Opus 4, or an earlier version of the program, let me ask you to do something that might save you some time – put the magazine down, go and get your credit or debit card out and sit next to the phone while you read the rest of the review. Why? Because if you don't know what Directory Opus is, once you find out, you will *have* to buy it.

In essence, Directory Opus is a file manager – a program that helps you to perform tasks such as moving, copying and deleting files. Directory Opus can also play animations, music, samples, read text and even launch programs. However, whether you will be trying to get hold of version 5, or an old copy of 4 depends on how good Directory Opus 5 is. Let's find out.

Easy money?

As I mentioned before, I thought reviewing Directory Opus 5 would be a piece of cake as I already know version 4 intimately. In fact, you could relate it to your girlfriend, or wife [Ed – Or *boyfriend, or husband* even – hmm?] changing their hair. "That's lovely dear", you might say, knowing that it's only a minor change in their appearance. You can imagine my horror when I installed Directory Opus 5 and found a completely alien-looking program – picture your beloved coming home with one side of their hair shaved bald!

Directory Opus' Interface has changed completely. Instead of the two-windows-and-button-bank approach that has now become the standard Interface for file managers, the program now sports several floating windows, multiple button banks and a bewildering array of icons. It was at this point I realised that I would be spending my entire weekend on this one.

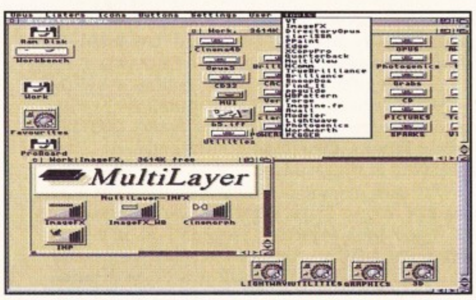


See, Directory Opus 5 hasn't changed that much – well, not if you use your old config file.

However, all is not doom and gloom as it is possible to convert your old configurations from Directory Opus 4 and so provide you with an approximation of version 4's Interface. Thus armed with a stable base of operation, I took to exploring the features of Directory Opus 5's new Interface.

One of the most notable differences in the Interface is that it now closely resembles an odd clone of your Workbench. This is mainly due to the fact that the program displays mounted devices, such as floppies and hard disks, as icons on the programs main window. It can even use your Workbench's preferences for things such as its background picture.

One advantage to this arrangement is that you can simply treat the program's main window as you would Workbench – dragging icons around and even copying disks by releasing one's icon over another's. If you double-click on a volume's icon this will automatically open a new window (now called listers) for it, unless the Show As Icons mode is activated, in which case a window just like one of Workbench's will open, complete with icons.



No, this is not Workbench – this is still Directory Opus, but with the Show Icons mode switched on.

Directory Opus 5's Workbench-likeness does not end there, though – one option during the installation is to have the program run instead of Workbench. Any of the listers, or button banks can be brought forward or sent backward; this is especially useful as it can be a little confusing if you have more than three or so listers open at once.

The program can also show appicons and tool menu items, for loading files into a certain program by either drag-and-dropping them on to the icon or selecting the file in the lister and choosing the tool from the menu. Files, directories and programs can also be copied to the main window and be left out, just as you can with Workbench.

Icons, icons and more icons

If there is one thing that Directory Opus 5 can never be accused of, is not having enough icons. There are icons for volumes, appicons, programs, files, program groups and a whole gaggle of them can be found in each lister. The icons that can be found there (on the toolbar) are actually used to perform basic file-operations, such as copying, moving and deleting, but they can also be configured to perform a variety of functions. These

can include Directory Opus 5's internal commands, AmigaDOS programs or scripts, ARexx commands and even Workbench programs.

When I first saw this row of tiny icons on each lister, I wondered how long it would take me to remember what each little picture meant. However, I soon discovered that as well as being able to define their functions, you can also change their appearance. You can load an IFF brush file to act as a replacement for any icon. You can also insert and delete icons from the lister toolbar, so you can have as many or few as you like.

While we're on the subject of listers, there are some other changes. While they still have a path field at the bottom, into which you can type the directory path that you want displayed, there is also another bar above the toolbar. These are called status bars, mainly because they display the number of files and directories in a lister and how many of these are currently selected. However, there are also three gadgets which can perform a number of functions.

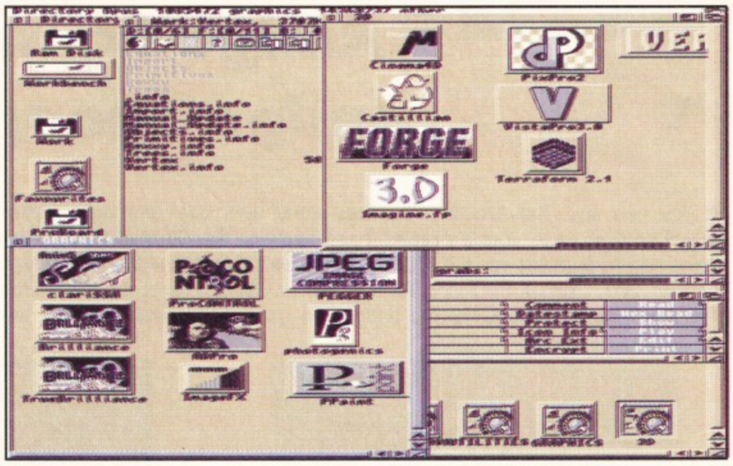
Command menu

The first one is the command menu, which can be used to select files by selecting all, none, or toggle. It can also be used in a similar way to the toolbar and button banks, because it has several commands available, such as copy, delete, get sizes, read, show and so on. As with the toolbar you can also add and remove commands as you desire.

The next gadget along is the device gadget which can be used to navigate the current device, or switch to another one. You can go to the parent directory, root directory, obtain a device or cache list and re-read a directory. The last gadget is the lister status gadget – this can perform a number of important tasks that change the current status of the window.

As you can have as many listers open as you want, simply clicking on one and leaving another unselected is not a viable method of copying or moving files if you have more than two windows open. By using the status gadget, you can make the selected lister the source or destination directory, turn it off, lock its position or status, and edit its options.

It is possible to totally edit the way listers display their contents. You can choose what information about a file or directory is shown, such as its size, date stamp, comment, its type and its network status. You can also apply filters that will stop files or the directory appearing by entering a wild card and an extension or any other text string.



The new program groups feature enables you to keep related programs in different storage drawers – although the programs are not moved themselves.

Not my Type

One of the things that I wished that Directory Opus 4 had was support for Workbench 3's excellent DataTypes. Thankfully, this has been added to version 5 – however, this is not the only additional feature that helps with the identification and handling of different filetypes.

Users of Directory Opus 4 will, no doubt, remember how useful its filetype function is. They may also recall how much of a pain in the butt it was to add a new filetype. This feature works by examining the headers of files and matching them with ones you have already specified and then carrying out the action you've assigned.

For example, if you double-click on an lha file its contents will be displayed and if you drag-and-drop it, the archive will be extracted. In version 5, a lot more filetypes have been supplied, so you don't need to engage in the drudgery of examining file headers. You just have to specify the action to be taken which, again, like buttons, can be an internal Opus command, DOS script or Workbench program.

Another useful inclusion is a feature called Program Groups. This enables you to create icons on the program's main window that will open up to windows that can contain the icons of several programs. Since you can create as many as you like, you can group certain types of programs together, such as painting packages, utilities, 3D renderers and Comms programs.

You can also include any file that has a default tool in its icon's information – this can then include pictures, databases and other files. A good example of adding a file to a program group is adding a script to log on to the Internet, launch Mosaic and, when another script is launched, log off.

A final useful feature is a recursive filter option. You can use this to select which files an operation will be carried out on. When this option is selected, the program will ask you for a filter each time a file operation is selected, such as deleting or copying a directory. An example of how this could be used is if you wanted to delete all of the IFF pictures in a directory – you simply type #?.iff and every file with the extension iff would be acted upon.

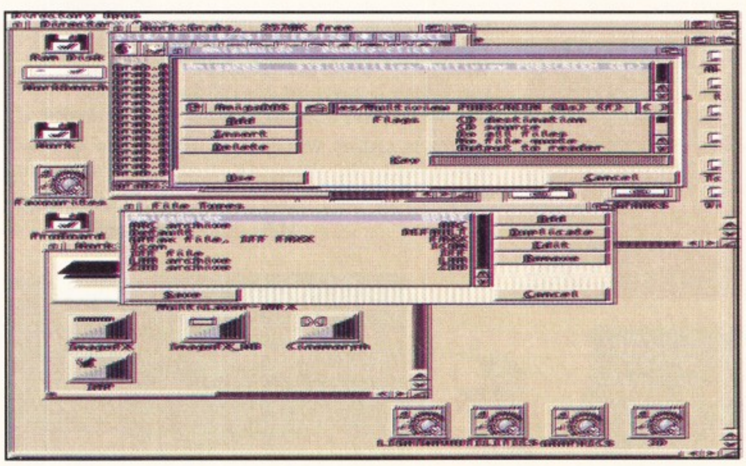
That's about all of the program's major features (oops I forgot the good, but sometimes ambiguous, on-line help), but I'd like to make an observation. Recently, I joined a conference on CIX for users of Directory Opus – it seemed that a lot of them were not too happy with what they had seen of version 5.

After initially sharing those reservations, but then reading a fair chunk of the manual, I would have to say that my first impressions were wrong. Directory Opus 5 is different and will take some getting use to, but is definitely a fantastically powerful and well-designed package. All the same, version 4 will stay on my hard disk for a little longer – until I get used to version 5 fully. ■

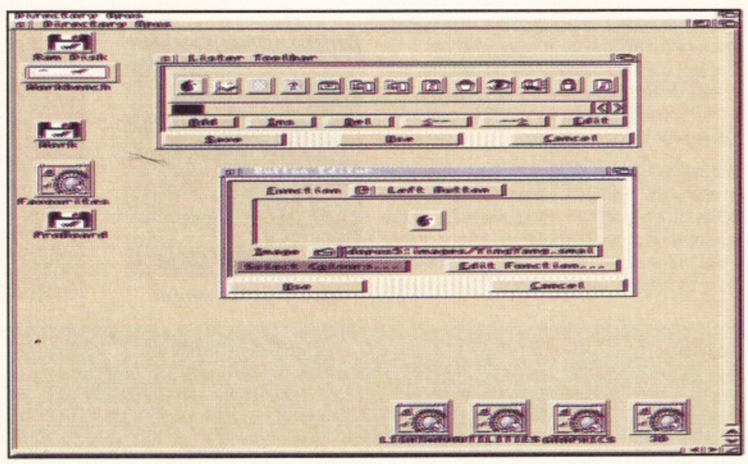
Directory Opus 5

Price: £49.99
Supplier: Wizard
Contact: 01322 272908

Verdict: 92% Star buy



Directory Opus' excellent Filetype feature enables the program to recognise a variety of types of files and then perform an action of your choice.



Each lister has a row of icons which can be used to perform any task that is available from Opus' commands, or DOS and Workbench programs.

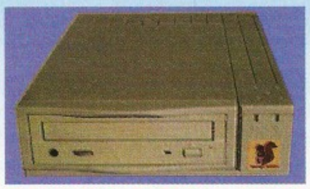
NICE ONE SQUIRREL!

Squirrel SCSI — CD-ROM • TAPE DRIVE • MAGNETO OPTICAL • HARD DISK • SYQUEST • SCANNER • FLOPTICAL

Amiga Format 93% CU Amiga 94%
Amiga Shopper 95% JAM "The best piece of hardware I've ever bought for my A1200 ... well done, HiSoft!"

As you can see, the Amiga press has gone nuts over our new Squirrel SCSI interface for the A600/A1200. In case you've missed these reviews, the Squirrel SCSI is a plug-and-play add-on that allows you to connect up to 7 SCSI peripherals to your Amiga. Just think of it, CD-ROM, Hard drive, Scanner, DAT, Optical, SyQuest, Tape Streamer - all on line at the same time! No wonder we named it after that famous storage-hungry animal! To go with Squirrel, here are some great value devices...

SCSI CD-ROM Drives



Squirrel 2x - int £129, ext £189
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Introducing our brand-new quad-speed CD-ROM drive, the Squirrel 4x; a feature-packed, lightning-fast drive at a stunning price. This is the flagship of our range of CD-ROM drives, all designed to suit your needs and your pocket.

Squirrel CD-ROM drives are cased in extremely stylish enclosures with all SCSI connectors and offer fast access times, stereo headphone sockets with volume control, phono line output, PhotoCD™ multi-session support, CD32 emulation (with the Squirrel SCSI interface), CD-DA compatibility with the convenience of tray-loaded action. The Squirrel 2x CD-ROM drive offers 300Kb/sec transfer while the Squirrel 4x attains 600Kb/sec (sustained) with a 190ms access time, the fastest CD-ROM yet on the Amiga.

These are the drives we use for developing and testing the Squirrel hardware and software - need we say more?

SyQuest Drives



88Mb - int £269, ext £329
270Mb - int £419, ext £479

Introducing removable SCSI drives for your Amiga. Based on reliable, proven SyQuest™ mechanisms, these 88Mb and 270Mb units offer transportable, compact, high performance and, above all, expandable storage for all your computing needs. SyQuest is the world leader in this technology across computer platforms which means that you can transfer work between Amiga, Macintosh™ and PC, with ease. We recommend the CrossDOS and CrossMac software packages to simplify portability - *call for pricing*. Our drive prices include 1 free cartridge.

SCSI Hard Drives





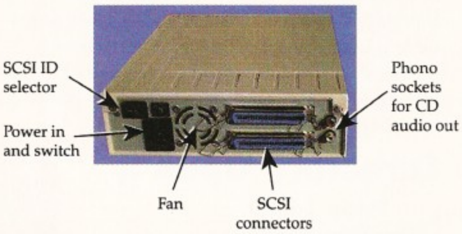
270Mb £169, 540Mb £239
730Mb £279, 1Gb £479
Add £60 for external units

Hard drives are becoming more and more affordable and we can now offer some tremendous prices on a range of superb quality, Quantum drives in a range of capacities.

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We can supply all leads, terminators etc. Please feel free to discuss your exact requirements with our friendly, technical staff.

Squirrel Storage Systems



All our Squirrel Storage Systems come either bare (*int* - ready for installation internally within a suitably-equipped Amiga or other computer) or fully-cased (*ext*) with integral power supply, SCSI in/out, SCSI ID selector and audio out (for CD-ROM). The cases we supply are high quality, shielded, snap-together enclosures, each with 40W power supply - the back panelof the 5.25" case is shown above. These SCSI enclosures are available at **£69.95** each (please specify 3.5" or 5.25" when ordering).

The neat Squirrel SCSI interface is shown on the right. The unit simply plugs into the PCMCIA slot, comes complete with all the software you need together with a cable which terminates in a 50-way Amphenol plug to attach to your first SCSI device.



the Squirrel SCSI interface

Twist 2

Twist 2 is the new, friendly, relational database for all Amigas. Twist's range of power features such as its integrated forms designer, its varied & multi-level querying, its N:1 1:N & N:M relations coupled with its un-cluttered, well-designed user interface make it ideal for both the first-time and the seasoned database user.



Twist 2 is the only database you will ever need - a product that expands to meet your requirements as they grow. So, before you buy another database, why not take a look at the Twist demo disk?

AURA

The latest of our highly acclaimed sound samplers for the A600/A1200, Aura offers high performance 12/16 bit quality with direct-to-disk sampling plus a host of software features. Octamed 5.04 up compatible.

96% Amiga Shopper 90% AUI

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Professional game development is made easy with the new GameSmith Development System. Over 3 years in the making, GDS gives you the low level power to create the masterpiece of your dreams in a single, easy-to-use, comprehensive environment, using C or assembler. Comes complete with junior versions of Dice C and Devpac 3. **90% AUI 92% CU Amiga**

Termite



Afraid of becoming a hedgehog on the Information Super Highway? Don't worry, Termite is so easy to use that even a first time user will feel at home. Yet it has all the power and flexibility to satisfy the most seasoned modem warrior!

Termite is packed with features and comes with its superb Button Bar already set up for instant access to CIX and many BBSs. **88% Amiga Computing 95% AUI 88% CU Amiga**

Ordering Information

All HiSoft products (see the complete list below) should be available through your favourite Amiga dealer. If you have difficulty in obtaining any title you can order directly from HiSoft - just call us free on 0500 223660, armed with your credit or debit card; we will normally despatch within 4 working days or, for an extra £6, by guaranteed next day delivery (for goods in stock). Alternatively, you can send us a cheque or postal orders. All prices include VAT. Export orders: call or fax to confirm pricing and postage costs. © 1995 HiSoft. E&OE.

HiSoft products for your Amiga: Squirrel SCSI interface - £69.95, Squirrel Storage Systems - as above, Aura 12/16 bit sampler - £99.95, Megalosound 8 bit sampler - £34.95, ProMidi interface - £24.95, HiSoft Devpac 3.14 - £79.95, HiSoft BASIC 2 - £79.95, HighSpeed Pascal - £99.95, Gamesmith - £99.95, Termite - £39.95, Twist 2 database - £99.95, Maxon Magic - £29.95, Upper Disk Tools - £14.95, VistaLite inc MakePath/TerraForm - £39.95 and much more. **Coming soon: DiskMagic (disk tools) and Cinema4D.**



HiSoft SYSTEMS
The Old School, Greenfield
Bedford MK45 5DE UK
Tel: +44 (0) 1525 718181
Fax: +44 (0) 1525 713716

Termite

Small, wood-eating creatures are very useful for getting on-line... well, friendly and easy-to-use Termite is, at the very least. **Nick Veitch** *burrows through the facts for you.*

What is the point of buying your Comms software when you can download it for free? The one area of Amiga software that has never been very strong on the sales-side is Comms. The reason is that the Comms scene is where most PD originates, so it's only fair that there should be a lot of terminal software floating around as PD or shareware.

Excellent programs such as JRcomm, NComm and Term already supply the Amiga with more knobs and bells and whistles than you could ever wish for.

The only real trouble with them is that most of them are written by Comms junkies. That wouldn't be a problem, except that their target market also consists of Comms junkies. The result is that much of the software is a little difficult for the average user to get to grips with. Termite's brief then is to be simple and easy to use.

Easy peasy

The main difference between Termite and other Comms software is that all the common operations, like opening your phone book or initiating a download, are accessed by a handy strip of gadgets. Absent are the tedious and horribly complicated nested menus so favoured by other software. This means that certain, detailed specifics of operation are hidden away in several layers of requesters, but, for the main part, details so hidden are not the kind that you will want to change on a daily basis.

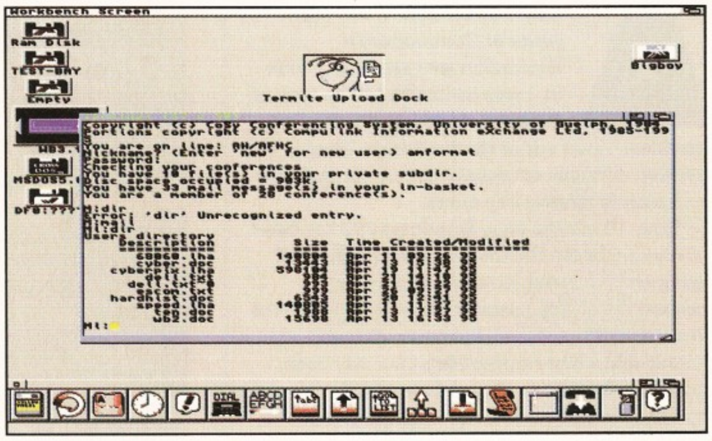
If you *do* get lost, or can't find some specific function, you can always resort to the on-line help. Displayed in AmigaGuide format, this has a respectfully detailed index of virtually every option, tick-box and menu in the software.

It is hard to fault the software on its features. You can set up multiple numbers for each phonebook entry, assign macros to certain keys, use a terminal on a public screen – you can even use plug-in xpr modules for ANSI, ASCII, Hex, or any other type of character set emulation.

All the requesters are very Amiga-like and the software is extremely robust. It will support high-speed devices and shared ports, so even the most demanding of communications set-up is catered for.

Termite will support modem-speeds of up to 115,200, which should be enough for another few years at least. If you have any equipment that runs faster than this, give me your name and address and I'll come around and look after it next time you go on holiday.

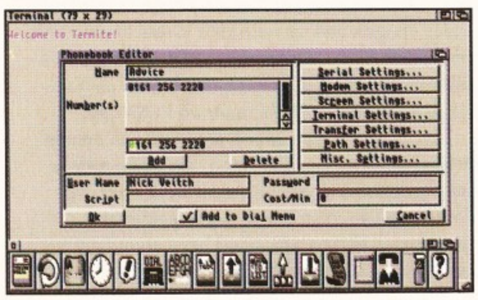
The advantage of using Termite on a public screen is that you can easily check where files are located, without having to flip between screens. It looks pretty cool too.



As well as supporting a public screen (which means that all the controls and buffer windows are displayed as windows alongside everything else), Termite even has AppIcon support for uploading files.

All you have to do is drag an icon over the Termite AppIcon and the file is automatically uploaded. You can also configure lists of files to be uploaded, which means you can pop off and have a Guinness while Termite sends loads of files.

If something exciting happens while you are out, you can always take a browse through the very useful scrollback buffer. The buffer size can be set to suit your personal level of forgetfulness and there is even an extremely useful, if somewhat primitive, search function, so you can pick out key words.



Multiple numbers can be set up for the same service – they can also have unique preferences.

Minor details

In operation, the only major faults that I can see is that the dialogue screen is full-sized, which means that if you want to drag the screen or switch tasks, you have to resize the window first.

This isn't a terrible mistake. I'm not suggesting the programmers should be ritually slaughtered. But they should take more care.

Also, the Chat window is not scalable and is fixed at a depth of one line. This can be very inconvenient if you tend to rant on a bit, as I always do.

Perhaps for Termite to be even *more* easy to use, someone should take the very brave step of introducing modem pre-sets, so you could just select, for example, a USR V32 modem and the software would automatically set up the approved reset commands, maximum speed and so on.

I find it somewhat difficult to say "go out and buy this software", because with some of the excellent PD and shareware utilities available, you could get some decent software at half the price.

But, on the other hand, Termite is friendly and easy to use. It doesn't lack for any particular features, the on-line help is extensive and HiSoft will provide support for it. ■

Termite

Price: £39.95

Supplier: Hi Soft

Contact: 01525 718181

Verdict: 86%

Broadcaster Elite

Broadcaster Elite is a fully-fledged, true broadcast-quality, professional, non-linear, video-editing system based around the Amiga 4000. **Gary Whiteley** *takes to the cutting room floor to investigate.*

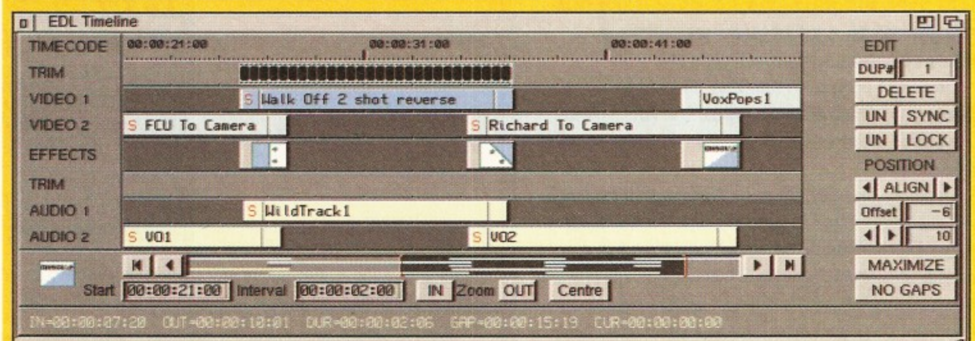
Almost a year ago, when the news of Commodore's liquidation was starting to sink in, I was invited to take a look at Digital Broadcaster32, the first non-linear video editor for the Amiga. What I saw was certainly encouraging, but not quite up to scratch in several key areas.

Now, 12 months later, Broadcaster32 has been superseded by the Broadcaster Elite which, to all intents and purposes, looks like it has now achieved the quality, usability and stability which the Broadcaster32 promised, but never attained. Frustratingly, whilst Applied Magic Inc. has been honing the Broadcaster to produce what is arguably one of the better non-linear editors on the market, the future of its host machine, the Amiga 4000, has become increasingly uncertain.

To review the Broadcaster Elite, I went to White Knight Technology's offices in greenest Hertfordshire, to a pleasant country village just off the A10. White Knight are the UK distributors of the Broadcaster and to show it at its best it takes pride of place in their demonstration suite, along with other goodies, including a beta version of the OpalVision video processor.



The Digital Control Panel works rather like the controls on a VCR to play and search JStream files from hard drive.



Everything appearing in the finished program can be minutely organised in the Timeline window by dragging and dropping items as required.

It's a lot of dosh

Let's get one thing clear – a full Broadcaster Elite system costs a lot of money. But if you compared the Broadcaster with other non-linear and tape editing systems, I think you'll find it rather favourably priced.

A Broadcaster Elite system costs a lot of money because the technology required to deal with the huge amounts of video data which are continually passing through the system is relatively expensive. It takes a meaty bit of hardware to be able to digitise and compress a complex video signal in real time and store it on to hard drive at broadcast quality.

Since a single frame of uncompressed video typically contains around 1Mb of data, it becomes clear that video *must* be compressed in order to write it to fast, cost-effective, hard drives. Suitable SCSI-2 drives can transfer data at around 5-7Mb per second, which means that the minimum amount of compression would have to be 4 or 5:1 to achieve these rates (at 25 PAL frames per second).

Fortunately, using hardware-based Motion JPEG compression, such low ratios tend to cause little (if any) artificing or loss and hence broadcast quality images can be recorded in real time to hard drive. Such high data transfer rates also require a fast host machine, which is why only the Zorro III bus of an Amiga 4000 is really up to the job.

Although Broadcaster's software can handle simultaneous sound and video, the audio side is entirely optional. If you only ever work on mute productions such as single frame animation rendering or videos which will have sound added elsewhere, you can save some money here.

If you *do* want audio, you'll need a Sunrize AD516 card and a fast hard drive to digitise the audio stream. Alternatively, a new audio card, the Amadeus, will soon be released, giving up to 32 tracks of simultaneous sound when used with the Broadcaster.

Requirements

High-specification hardware: Amiga 4000, SCSI-2 controller (Fastlane or Warp Engine, not Commodore 4091), large SCSI-2 drives for video storage (e.g. 4Gb Seagate Barracuda), at least 4Mb Fast RAM, plus 1Mb chip RAM (8Mb Fast or more needed for transition generation), Sunrize AD516 or Amadeus card (optional) for audio grabbing, plus suitable SCSI or IDE drive for storage. RGB and video monitors for display, video sources for input/mastering. Additional options include graphics card and fast DAT drive for video/audio file backup.

Technical specifications

- **Selectable PAL/NTSC operation**
- **Conforms to CCIR 601 Broadcast standards**
- **Full SMPTE time code capability**
- **Video Capture at 50 fields per second (PAL)**

Video Inputs:

- **Composite, S-Video and Betacam SP (YCrCb) (Individual digitisers for each Betacam component)**

Video Outputs:

- **Composite, S-Video and Betacam SP (YCrCb)**
- **Image Size:**
- **720 x 576 pixels (PAL)**

Producer – the Elite's software centre

The heart of Broadcaster Elite is its Producer software. It looks and feels easy to use and there are keyboard equivalents for just about every function, as well as on-screen help for many items.

With its clear layout and easy-to-access panels, Producer should quickly ease the technophobia of even the most traditional film or video editor. With

Non-linear editing

Since the late 1960s video tape has been edited electronically by copying selected portions of sound and vision from one tape to another. To achieve this with any accuracy, it is necessary to have a certain amount of video equipment – including two or more video decks for playback and recording, a vision mixer, an audio mixer, time base correctors, test equipment, monitors for each video source, a controller for the video decks and lots of cables.This equipment could cost over £50,000 for a broadcast-quality setup and over £10,000 for an industrial or "prosumer" system.

Traditional video editing requires that the source tapes be shuffled in and out of the video decks when particular shots are required and wound forwards or backwards until the correct start and finish points are determined. Not only does this take time, it also puts strain on the tapes. it was obvious that digital video editing could replace linear, tape-based editing and simplify the process whilst keeping the quality up.

Nowadays, there is a choice of non-linear editing systems, most based on more prevalent (not necessarily superior) Mac or PC technology. All non-linear editors have several factors in common. First, selected video and audio clips are digitised and (usually) compressed in real-time from the original tapes on to extremely fast, high-capacity hard drives. Then a running order for the clips is determined using the NLE's software.

Since the clips are accessed randomly from disk a complete sequence can easily be previewed at any time without the need to swap tapes, and new clips can be added or removed simply and easily. Any trimming of the digitised clips is done through software, keeping the original material intact at all times.

When the program is assembled to the director's satisfaction, the edit can be set in motion and recorded digitally to hard disk and/or output to linear video tape for distribution. Because the stored clips are in digital format no generation loss (i.e. signal degradation through electronic copying) will occur, however many times they are copied and edited, and because the final recording doesn't have to be put together from start to finish in a linear (videotape-style) manner there's no need to go back and re-edit preceding sections to tighten up a production – it can all be done electronically with a NLE.

To summarise, NLEs are digital, random-access systems. Electronic effects can be controlled from software and the final edit stored either on hard drive or laid off to tape. Traditional video editing is linear, requires bulky equipment, tapes have to be changed when new shots are required and data cannot be accessed randomly, making tape editing a relatively slow and often frustrating process. Audio and video are usually treated separately and quality deteriorates with each copy of the original footage (unless digital video tape is being used).

instant access to digitised clips, there's no need to search through yards of video tape for that missing cutaway. Changing the playing order is as simple as dragging a clip to a new position. Replay and preview is immediate and there's no need to do a recut if only one section needs changing – reload the video clips to Broadcaster from backup, make the change and remaster the video. If only tape-based editing could be so easy!

Using Producer to edit a video is essentially a two stage process. First, the video clips have to be digitised as Motion JPEG files on to hard drive. If an audio card is installed, sound can be digitised simultaneously and will remain in sync with its associated video clip. The desired compression quality can be chosen from a range of options, beginning with very high compression rates for "rough" work, through domestic VHS and S-video settings right up to full broadcast quality.

At the highest compression rates (around 80:1) something like 45-50 minutes of video can be stored per Gb of hard drive space, whilst at broadcast quality (6:1 ratio) around 5 minutes/Gb can be achieved. Choosing a compression setting is simply a matter of picking a name from the list, after which Broadcaster makes intelligent real-time decisions about the compression ratio based on the quality you have set.

Additional digitising methods include single-frame import (for recording animations from rendering software, such as LightWave, or direct from camera) and time lapse, which has a minimum grab interval of every 5 frames. These options won't record simultaneous audio, but then there's no real need to.

Cutting to order

Once digitised, the MJPEG files (each referred to as a JStream) can be broken into smaller units (or "shot") which will be the building blocks for the final edit. These shots are dragged across to the EDL (Edit Decision List) window and can be played back in their chosen order. So you can see that Broadcaster can be really easy to use.

From the TimeLine window, fine-tuning of every edit can be made to a single frame (that's just 1/25th of a second). Start and end points can easily be trimmed either numerically, or with the mouse and transitions, including a range of wipes, dissolves and other effects can be applied between shots (some require Art Department 2.5 software).

These transitions must be rendered before they can be displayed, but, since the Amiga multitasks so well, they can be rendered whilst you continue making edit decisions. Unlike previous versions, Broadcaster now renders transitions very fast, making them a cheap alternative to a vision mixer.

One very welcome new software addition is the CG Overlay, which can insert anti-aliased graphics directly over edited shots, providing a very useful captioning and ident facility. There is also a range of utility programs which come in handy for extracting frames from a JStream, custom wipes and so on, though most require ADPro2.5 to work.

For those who still wish to on-line their final master in a linear edit suite, Producer can provide industry-wide CMX and standard EDL lists, meaning that the Broadcaster can also be used as an offline edit suite to rough cut a program prior to final editing.

In order to keep tabs on the content of each digitised clip, Producer uses an extensive *tagging* system which allows for the addition of written notes to every shot, making finding particular shots very easy. Hence the Broadcaster could also serve as a clip or image database and researchers could quickly and easily locate shots relevant to their production, provided they are appropriately logged.

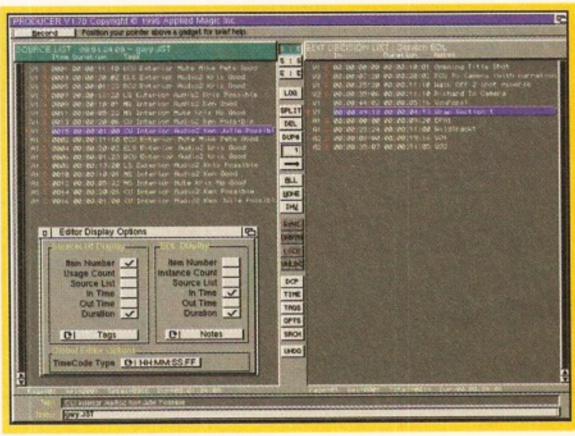
All in all, Broadcaster and its Producer software are very easy to use and the system makes for reasonably stress-free editing at a much faster pace than tape-based setups. Although it isn't entirely free from niggles (what system ever is?), it looks like Broadcaster Elite has at last got it right. If you're serious about video editing and want an alternative to tape, you really should take a look at Broadcaster Elite, because it is an outstanding product which conceals its true power behind an easy-to-use Interface.

If the Amiga 4000 survives and its new owners treat it as the serious machine we all know it should be billed as, then Broadcaster Elite will do very well in professional and broadcast video markets. If the Amiga falls, then I'll be sad that a product as good as the Broadcaster will inevitably fall with it. ■

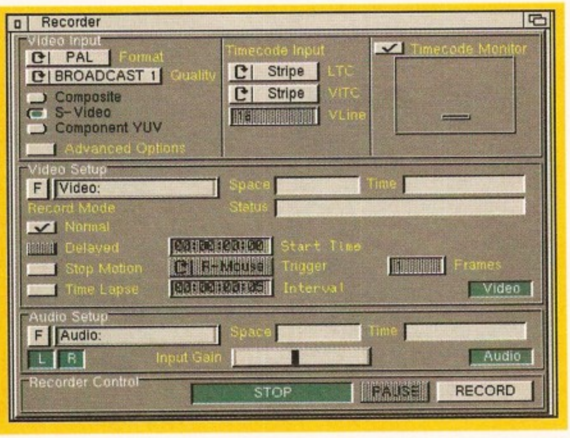
Broadcaster Elite

Price: £9,500+VAT
Supplier: White Knight Technology
Contact: 01920 822321

Verdict: 92% — Star buy

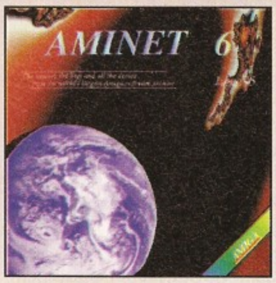


Using lists of digitised shots it is very easy to drag and drop items from the source directory into the EDL list to quickly build up a program.



The process of digitising video and audio streams is controlled via the Record window, where all the necessary options are available.

D-ROM...CD-ROM...CD-ROM...CD-ROM...CD-ROM...CD-ROM...CD-ROM...CD-ROM...CD-ROM...CD



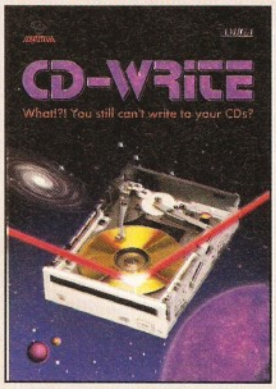
Aminet 6

Aminet CD 6, dated June 1995, consists of approximately 1,1 gigabytes of software in 3600 archives. Since the release of Aminet CD 5 more than 540 MB new software has appeared. The current edition has a special focus on demos, more than 1800 demos from Aminet were included. User friendly access software make the Aminet CD 6 a pleasure to use. £14.95



Aminet Set 1

Aminet is the world´s largest collection of freely distributable Amiga software. Up to 10.000 users access the vast archives ervery day and countless programmers publish directly via Aminet. Until recently access to Aminet was restricted to international network users. With Aminet Set 1, consisting of 4 CDs, the complete archive is published the first time. This CD-ROM-collection, which is dated January 1995, offers an almost inexhaustible reservoir of top-value Shareware. A wide variety of programs is included: Applications, Games, Demos, Pictures, Mods, Animations, Developer-Material, ... It contains approximately 4 gigabytes of software in 12.500 archives and you will enjoy the comfortable user-interface. £29.95



CD-Write

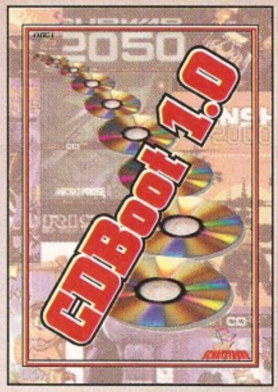
What!?! You still can't write to your CDs? CD-ROMs have long been an essential part of Amiga computing. Many users already own a CD-ROM drive, and the number of software packages available on CD is increasing steadily. Until now, though, it was not possible to write to CDs. We have solved this problem with our new revolutionary product: Ralph Babel and Stefan Ossowski's Schatztruhe are proud to present what can be considered a marvel of technology: CD-Write enables you to virtually write to CDs with an ordinary CD-ROM drive. From now on, you will be able to write, delete, and modify data on your CDs. This product will take you into a new era, and you will be able to utilize CD-ROM technology to its fullest. £44.95



FreshFish 8

The FreshFish CD-ROM-series, produced directly by Fred Fish, provides Amiga users with hundreds of megabytes of the latest freely redistributable software. Published approximately every two months, each volume is a two CD set containing new submissions since the latest volume, as well as an ever growing selection of tools, libraries, documentation and other useful material that is updated with every release. £29.95

CHIARI OFFICE · 1995



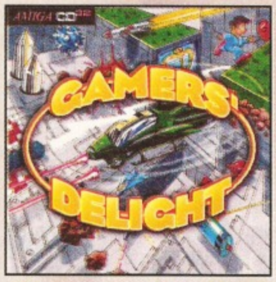
CDBoot 1.0

CDBoot is a fantastic new product that enables you to use almost any CD32 games on an A1200 or A4000 (with AT- or SCSI-CD-ROM drive and any filesystem). You can create a configuration file for each CD, containing information on the Joypad emulation. You can also save the highscore of each CD32 game. The usage and installation of CDBoot is very easy, also for beginners, due to the excellent English manual. Since the compatibility is very high, you can use 98% of CD32 games currently available. CDBoot is an excellent software solution for all Amiga-Freaks, who would like to enter the world of CD32 games! £34.95



FreshFonts II

The FreshFonts II CD-ROM contains 632 megabytes of fonts for almost any computer system. Most of the fonts are freely distributable, except for the Thienen fonts, which are exclusive on this CD. Each of these fonts is included in four different formats: DMF, Agfa IntelliFont, Adobe and TrueType. There are 231 font families on this CD (each containing of up to 8 different styles). They are classified in seven categories: Deco (63 families), Non-Latin (33 families), Pictures (16 families), Sans Serif (29 families), Script (36 families), Serif (36 families), Thienen (19 families). £19.95



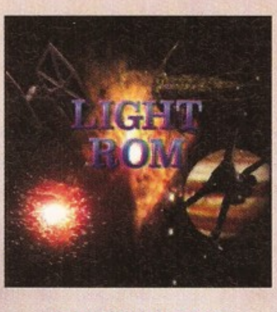
Gamers' Delight

This CD contains 40 games for the Commodore Amiga from differing categories. Action, Jump & Run, Card Games, Puzzles, Strategy Games - a whole range of computer entertainment awaits! Gamers´ Delight will hold you captivated for hours and guarantees long-lasting pleasure. All games are commercial versions - no public domain & no demos! This CD can be run on any Amiga with CD-ROM drive, CDTV or Amiga CD32 Console with 1 MB free memory and Joystick/Joypad. £29.95



GoldFish 2

Volume 2 of the GoldFish series contains a selection of software, animations, pictures and other material released on FreshFish CD-ROM's between October 1993 and November 1994, with most of the material updated to the latest available versions. All material is included in both archived (BBS-ready) and unarchived (ready-to-run) forms. £29.95



LIGHT ROM

The LIGHT ROM CD contains almost 650 megabytes of 3D objects, images, images equences, scene files, surface attributes, bump maps and textures in IFF and TARGA formats, DEMs, and Lightwave related text files. LIGHT ROM is an invaluable resource for Lightwave users, and as a bonus, includes material for Sculpt 3D and Imagine users. £44.95



Magic Illusions

3D Stereograms on your screen! A new, interesting entertainment is born: Without special aids a three dimensional colourful and fantastic object appears suddenly on a two dimensional strangely patterned picture. The illusion of depth has already stunned millions of people around the world. Now you can view the stereograms at home on your screen! All you need is on this CD. Besides 200 stereograms with varying difficulty, there is software on the CD, which enables you to create your own 3D pictures. £12.95



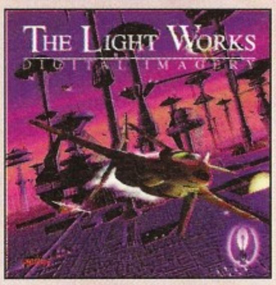
Gateway!

Gateway! offers NetBSD 1.0, a full featured UNIX-like operating system with both sources and binaries for the Amiga, i386, Sun 3, and other architectures. Go netsurfing with the large selection of supplied networking tools. Other supplied packages include a binary release of the X window system (X11R6) for the Amiga, with many additional clients, and packages such as perl, emacs, games, mail programs, and many megabytes of important text files such as RFCs and FAQs. A complete installation guide is available on the CD. There are also some AmigaDOS internet utilities, such as clients for AmiTCP and Envoy. £9.95



Meeting Pearls Vol. II

The Meeting Pearls Volume II contains 650 MB of the finest FD software via a special user interface, which has been created to allow you to find the program of your choice with ease. The contents: 35 MB of selected html-pages - 50 MB graphics programs and data -15 MB games - 10 MB from "The Party '94" - 13 MB disk, hard disk - CD-ROM and SCSI tools - 19 MB various other tools - 11 MB educational software - 25 MB terminal programs - 25 MB animations, mainly from Eric Schwarz - 40 MB developer tools (e.g. pre-installed compiler (DICE, Oberon, Modula), Commodore-Includes, GUI-Tools) - 9 MB music programs - 10 MB midi programs - 27 MB pictures - 60 MB texts, FAQs, CD contents files, etc. - 40 MB linux for Amiga - 100 MB TeX installation (PasTeX incl. 600 dpi and fax fonts) - 38 MB movie data base - 50 MB archives for Psion - 18 MB modules - 50 MB NetBSD for Amiga, ... £9.95



The Light Works

Raytracing - A fascinating area of the computer graphics. Pictures from the computer, perfectly rendered, fascinate people all over the world. The Amiga was the first computer to be used for raytracing, and today it is still a leader, with many high quality programs. A real artist of raytracing is Tobias J. Richter from Cologne/Germany, whose detailed objects stun the people. Especially his space ships of famous science fiction films are used to demonstrate the capabilities of a raytracing program. The objects are highly detailed and extremly realistic due to the application of complex surface textures of the models. Until now it was difficult to acquire these objects in order to create ones own scenes or animations. £39.95



The Beauty Of Chaos

Dive into the fantastic world of the fractal geometry and make a safe journey through the depths of the mandelbrot set. This CD includes: 507 mandelbrot pictures in GIF format (256 colors) in the resolutions 1140x890,1024x768, 640x480 pixel, 20 selected true color pictures in TIF-format, Graphic viewers for PC, Amiga and Macintosh (packed). £14.95

All products are available in your local Amiga-shop or through national mail-order-companies

SCHATZTRUHE

International Distributor:

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Grenville Trading International GmbH
Zimmersmühlenweg 73
61440 Oberursel · Germany
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DiskSalv 3

DiskSalv – the program that saved many users' sanity has now gone commercial. **David Taylor** *sees what can be done when it all goes horribly wrong.*

It would amaze me to come across any serious user that doesn't know of DiskSalv, because every so often, every user gets a corrupt disk. A long time ago, you'd have resorted to a program called Disk Doctor, but this was withdrawn from the Workbench distribution, because, in essence, it was crap.

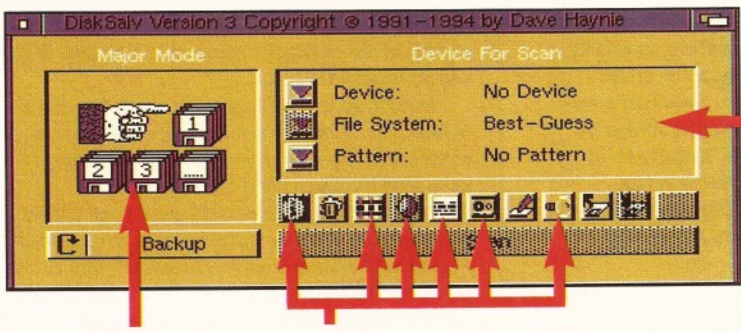
With a void made, several programs have sprung up to fill it. Commercial programs such as Quarterback Tools have been through many versions and are very competent. Throughout, though, there has been one shareware program that has constantly impressed. Written by Dave Haynie, the man behind much of the Amiga's internal design, DiskSalv contained many features and outperformed many of its commercial rivals.

Now in its third incarnation, Dave Haynie has completely rewritten the Interface and launched it as a commercial product. The reason for this is apparently twofold. First – it is a whole rewrite and, second – sadly, people were making use of DiskSalv to solve their problems, but not registering and paying the shareware fee.

The new Interface takes on the icon-driven look that is rapidly becoming standard. The problem with icons is that it's not always immediately obvious what the icon is for, whereas if you couldn't work it out with text, it was because you couldn't read (or spoke a different language). That said, it is quite easy to get used to these buttons with a few referrals to the on-line help.

One point about the on-line help is that it uses the AmigaGuide document that accompanies the program. Not only this, it requires a very recent version of the amigaguide.library, so, to use it, you may have to track down an update of the library.

If you don't have the right version, but try to instigate the on-line help, the likelihood is that you'll crash your machine. This doesn't affect the running of DiskSalv per se, because you can cancel the on-line help feature, but *does* mean you may end up stumbling around in the dark a bit more. The best thing to do in this case is run the AmigaGuide in the background, so that you can flick back to it whenever you get stuck.



Select the device you wish to work on. You can tell DiskSalv the appropriate file system, or allow it to guess. Pattern matching can also be initiated.

Seven major modes can be selected: Salvage, Undelete, Repair, Unformat, Check, Backup and Cleanup.

These options can then also be used. From left to right: 1. Information about the volume selected. 2. Open a pattern for file matching. 3. Quick and full options. 4. Results can be logged to a file. 5. Tape streamers are supported. 6. Analyse the disk structure.

The program itself consists of seven major modes: Salvage, Undelete, Repair, Unformat, Check, Backup and Cleanup.

This represents quite a change from previous versions. The Salvage option still works in much the same way, scanning for lost data and then allowing you to save it out to a new destination. The Validate option that was present in the earlier version has been incorporated into the Repair function, where the quick and full options differentiate between the old "Validate" and "Repair" functions.

Two new functions have been added. The Backup mode is obviously a preventative measure that has been included for those with hard disks. Backing up data is safer than relying on the other functions of DiskSalv, which can rarely be as successful as simply replacing the corrupt data.

Cleanup is an unusual addition in that it looks through the disk for old files that have been deleted and zeroes the blocks they occupy. When a file is deleted only the reference to it and not the actual file itself is removed, which is why it is possible for programs such as DiskSalv to retrieve deleted data.

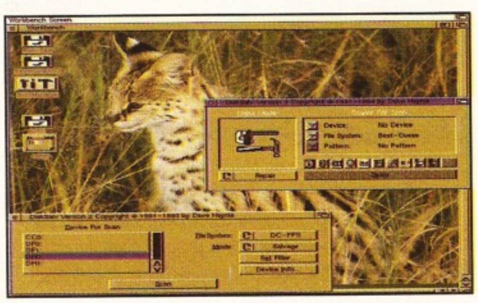
There are occasions though where you may wish your sensitive data to be truly removed so that nobody can restore it. This option will clean your disk to achieve this (if this interests you, it may be worth noting that there are some PD CLI commands (e.g. RM) you can use which truly delete data).

The purpose of the other functions remain largely the same. Undelete will retrieve files that have been accidentally deleted and as long as they haven't been written over will be fully restored. Unformat attempts to restore a disk that has been either quick or partially formatted (if a full format has been done, the whole disk has been wiped and nothing can retrieve any previous data).

DiskSalv 3 also now has a pattern matching option that allows you to set up simple or complex patterns that the program will follow when it runs. In other words, you can get it to search for specific files, instead of scanning for all files.

Not only can all these operations be performed on standard Amiga devices (i.e. df0: or dh0:), but also on the new file systems that have been devised by PD programmers, like diskspare.device (ds0:) or Professional File System. Dave Haynie welcomes any other file systems so that he can support those too. This ability is one of the extras that sets this program apart from its competitors. Add to this the eco-friendly packaging and DiskSalv 3 is the best disk-doctoring program I've seen yet.

DiskSalv 3 has been tweaked to be more effective than its predecessor. If you value your data and don't want to sacrifice it, DiskSalv is a must. ■



DiskSalv 3, with DiskSalv 2 pictured below, has a completely re-written, button-driven Interface.

DiskSalv 3

Price: £29.95
Supplier: Almathera
Contact: 0181 6870040

AMIGA SHOPPER ✓

Verdict: 90% Star buy

CD-ROMs

It's raining Compact Discs, hallelujah! **David Taylor** *sifts through this month's deluge of heavenly-sent CDs and finds something to suit most tastes, including a couple of corkers.*

Floppy disks are all well and good, but even top archivers can't fit that much data on to them. CD-ROMs have breathed a new lease of life into the Amiga by making literally hundreds of Megabytes of information available for a nominal fee. Even better, there are not only general interest CDs, but also specialist ones. Could life get any better?

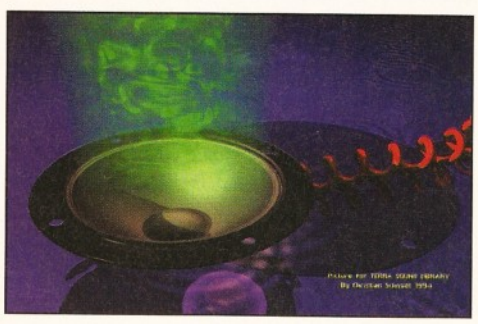
Terra Sound Library

Everybody likes playing with music programs, in the same way that we all love paint packages. The fruit of our labours might fall short of genius, but the creative instinct has to be fed. Thanks to CD-ROMs like this one, even the most incompetent musician (i.e. me) can make tunes that are, at the very least, *interesting*.

As its name suggests, this CD is an attempt at providing a library of music-related material. Although the Techno crowd is well catered for, there's plenty here to interest all and sundry.

As you'd expect, there are areas for samples and instruments. The samples range from short 'ping'-type sound, to extensive samples taken from motion pictures and television series. Star Trek is heavily featured, as are The Hitch Hiker's Guide To The Galaxy, Monty Python and there's even some Muppet Show on there.

The instruments range from samples from songs to individual instruments. Taking advantage of all of these gives you the chance to make a very original module, without having to resort to sampling things yourself, which is both time-consuming and rarely satisfactory (not to mention requiring the sampler and the source).To give you an idea of the depth of support, there are over 300 drum samples and loops.



Terra Sound Library offers an ideal way to boost your collection of music material in one fell swoop.

In addition to the samples, there are hundreds of MIDI files, broken down into alphabetical order, as well as some utilities for each area, including more than 20 players and composers.

Aside from all the elements given to you, there is a collection of ready-made modules and demos. A case of "Here's one we made earlier." The modules (and there are thousands of them) range from the clones and remixes of actual songs to the creations of Amiga music Gurus. The demos are all stored in DMS format and need to be extracted to a floppy disk. This is easily achieved thanks to the friendly DMS Workbench program on the CD.

To give you a full break-down of the CD's contents, there are: 265Mb of samples, 275Mb of modules, 13Mb of Players, 10Mb of MIDI files and 32Mb of demos. If you've just got started with Amiga music, then this is an ideal CD. The quality and type of sample means that Terra Sound Library may not be of interest to the professional user, but it's more than adequate for the home user. A well compiled effort.

Terra Sound Library

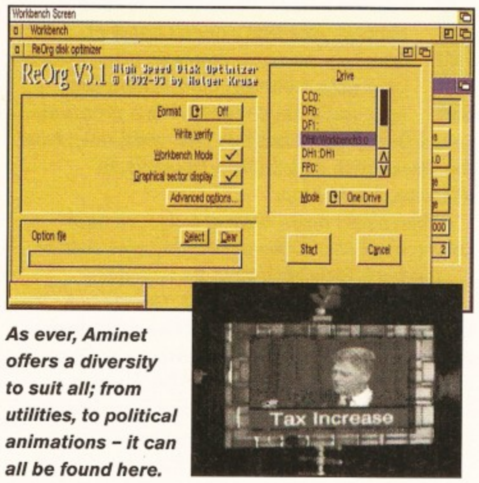
Price: £19.99
Supplier: PD Soft
Contact: 01702 466933
Verdict: 85%

Aminet 5

Aminet is the heart and soul of Amiga Public Domain. It is the biggest collection of software for the computer in existence and it grows every day. The reason for this is that most PD programmers submit their work for Aminet. To access this huge library, you used to need access to a modem, but with the growth of CDs, the library is now available this way. This fifth disc in the series includes all the latest uploads, up until March 1995.

As ever with Aminet, the whole spectrum is covered, from business software to Workbench utilities with everything in between. As Aminet is so well categorised, especially with the AmigaGuide index on this CD, it's easy to track down anything from new modules to 3D objects to Comms. All the files are archived, mostly with lha.

The index can be used to unpack any data; when you've found the file that interests you, click on it and it will be de-archived. Once you're used to the classification system, you'll be using a program like DOpus to find and get the things you want, but the index is a great place to start out.



As ever, Aminet offers a diversity to suit all; from utilities, to political animations – it can all be found here.

Some of the highlights to be found are: Dave Haynie's shareware version of DiskSalv – the premier disk-doctor program that has now gone commercial (see page 43); Re-Org – the best optimisation program I've seen; QuadraComposer – a great module editor; some excellent pictures and animations, including a clever and thought-provoking jibe at President Clinton. That's all without mentioning the Workbench utilities, datatypes, blankers, CLI commands, etc., etc....

Aminet 5

Price: £14.99
Supplier: PD Soft
Contact: 01702 466933
Verdict: 92% Star buy

Meeting Pearls 2

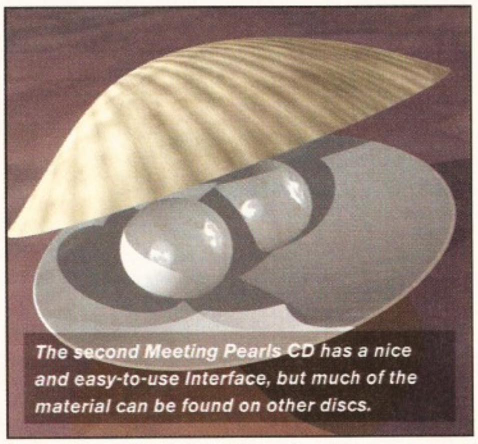
This second CD in the Meeting Pearls series follows much the same format as the earlier one. There is a "Finding Pearls" searcher which helps you to look through the contents, as well as a Mosaic document that takes you on a visual tour.

Both of these require a Magic User Interface and the CD can install a temporary one should you not have this running. As with Aminet, this is a

general CD, but it isn't simply a collection of the latest software. This is a selection of material, chosen by the authors as the best, most impressive and most useful pieces. You'll find things ranging from the new archiver, LZX, through to the classic Eric Schwartz animations and pictures.

Artwork is a prominent feature of this CD, with animations and pictures split into sections and sub-sections, like Pix/Fantasy/Tolkien. It's worth noting that the images are stored as JPEGs and are quite large, so you'll need a lot of memory to display them (6Mb wasn't enough when using ADPro and I had to switch to a smaller program, Viewtek, to see them). Bearing this in mind, the quality of the images is excellent.

The programs on this CD are not archived, so



The second Meeting Pearls CD has a nice and easy-to-use interface, but much of the material can be found on other discs.

you don't get as much as you do on the Aminet CD, but there's still plenty there. Each section has around 20 utilities or programs in it, so you'll definitely find something of interest. At only £10, this CD offers good value for money, but it's hard to see how, with so many CDs containing a significant amount of identical material, they can all attract enough custom.

Meeting Pearls 2

Price: £9.99
Supplier: PD Soft
Contact: 01702 466933
Verdict: 80%

GFX Sensation

The Amiga is renowned for its stunning graphics capabilities, so it will come as no surprise to discover that a CD dedicated to images and their creation has been launched.

This CD-ROM is not Amiga-specific though, it contains images and animations, as well as utilities. Designed for different system users, the utilities are split into Amiga, PC and Windows variants, but don't be dismayed, because there is a wealth of stuff for everyone. Obviously, given the title, there are a lot of 3D tools, but there are also a number of general utilities, such as the excellent Iconian. The pictures and animations can, of course, be used by all and there are also some IFF and Postscript fonts.

3D objects are supplied in both LightWave and Imagine formats and the choice of objects is divided into innumerable sub-groups. The objects are PD and the quality ranges, but there are certainly enough to keep you going. If you've just started out in 3D, or if you need more objects, this CD could be the answer. I can't help but think, though, that if the idea was to create a CD dedicated to 3D then they should have done that and put more objects and 3D-related material on as opposed to a selection of general programs (however good) which can be obtained on so many other CDs.

GFX Sensation

Price: £19.99
Supplier: Epic Marketing
Contact: 01793 490988
Verdict: 85%

Compendium Deluxe V2

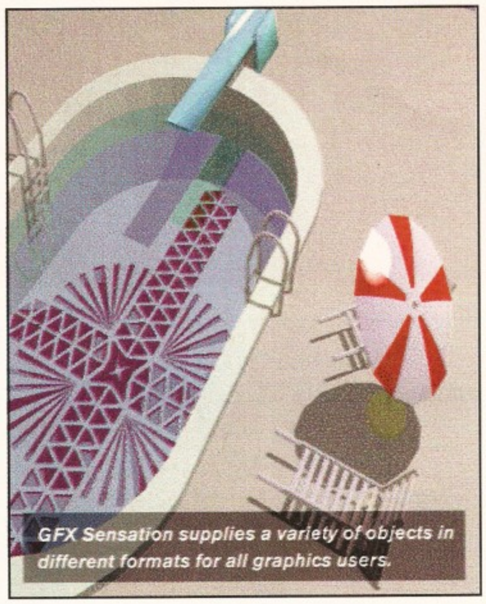
This last disc surprised me. I was expecting another mediocre effort, containing, as most CDs do, some good and bad things. Instead, I found an orderly CD split into two sections. The first contains the programs and these are split into sensible categories, like: AmigaDOS, Audio, Business and Programming. Inside these are lha with some very useful programs on and, in addition, are some Assassin collection discs, packed as DMSs. These discs contain a selection of utilities chosen by the Assassins and put into some order, such as Disk Archivers.

With all the utilities neatly ordered and being impressive, I was expecting wonders from the other section and I wasn't disappointed.

There are five sub-sections here: 40K Intros, Demos, Graphics, Music and Text. The 40K Intros and the Demos are a mixed bunch, as is to be expected, but some of them are very fine, especially considering the size.

It was the graphics section that impressed me most, though. Amongst the computer art, which is good, there are collections of real images which make it a very useful library disc for those who want to add picture to their documents. It makes it very easy for everyone to start producing professional-looking documents, whether it's a school project or a company report.

The music has a truly extensive set of



GFX Sensation supplies a variety of objects in different formats for all graphics users.

modules with something to suit almost all tastes, but even here I couldn't find the elusive module called Grey that I've been searching for over the last two years (ever since it got deleted from my hard drive). So, it's not the definitive collection of tunes, but it is impressive, with even a section for chipmods.

The text directory contains other directories with Amiga Mags, FAQ (Frequently Asked Questions), GameHelp and an area called UFOMags which contains, amongst other things, original fiction.

I wish it was a little cheaper, but at £20 this CD still shines very brightly indeed. ■

Compendium Deluxe V2

Price: £19.99
Supplier: PD Soft
Contact: 01702 466933
Verdict: 91% Star buy



The Compendium CD, among everything else, has a mixture of real and rendered images which make it the ideal basis for an image library.

Hi-Q PowerStation



The Hi-Q Tower PowerStation with the brilliant Active 75 speakers.

David Taylor *reviews the two new expansion boxes from Hi-Q that can open up a whole new avenue of possibilities for your A1200.*

Until now the PCMCIA slot on the A1200 has been of limited use for expansion purposes, offering the opportunity of adding only one extra peripheral, be it a hard drive, CD drive, or extra RAM. The PowerStation from Hi-Q can now help break this stalemate.

Employing the Hi-Soft Squirrel Interface, the PowerStations from Hi-Q offer a housing unit for any SCSI devices you want to link to your Amiga. The advantage of adding devices in this fashion is that you can buy internal devices, which are cheaper, and make use of the upgraded power-supply that is fitted to all PowerStations, avoiding the need for lots of leads and power points. Aesthetically speaking as well, it's better to have the peripherals hidden away together, as opposed to sprawled across the desk.

There are two versions of the PowerStation – Standard and Tower. Initially there was a difference in the slots offered by the two, but they are now identical, both supplying two 5.25" and three 3.5" bays. Of these though only one 3.5" is accessible from the front on the Standard, as opposed to two on the Tower.

The other difference between them is that the Standard comes with built-in stereo speakers, which can be used not only with CD-ROM drives, but also with the Amiga's own output.

So, minor points aside, these boxes are exactly the same. The choice is yours as to what you place inside the box. Hi-Q do offer certain bundles. The problem with connecting any SCSI device is not whether the hardware works, but whether there is adequate software support for it. Since the peripherals attached via the PowerStation are mainly drives of one form or another, this is not a problem on the whole, but should you try connecting a SCSI scanner to the Squirrel, you'd be quite constricted in the choice of software you could use with it.

It is anticipated that most people are interested initially in buying the PowerStation with a CD-ROM drive. The recent explosion of CD-ROM software has added a new dimension to the serious side of Amiga computing and it's one that many people want to become involved in (see page 44 for our CD-ROM reviews).

Unless you have a very good reason not to, the CD drive is best considered essential. Instead of seeking out single disks for the pieces you need, over 600Mb of categorised data are at your fingertips on each CD. Even if you have a modem, a CD can save you the cost of being on-line to track down that elusive Imagine object. The CD drive can also be used to play audio CDs and an adequate software player Interface is supplied.

Aside from CDs, Hi-Q are offering Quantum 540Mb hard disks. These half-Gb drives are very fast and offer as much storage space as most people need at the moment. Many people may think that they could never fill such a huge amount of space, but don't be fooled. Buying smaller drives is often exceptionally false economy; the only thing easier than filling a hard drive up is crashing one.

Due to popular demand, you can also get the PowerStation fitted with a tape streamer. Tape streamers are a reasonably fast way of backing up your hard disk. The hardware is expensive, but thereafter individual cartridges are quite cheap (around £25 for a 2Gb tape).

Most back-up software, including some PD, will back up on to a tape streamer, but you may have to play around for some time to get it to work. Both Ami-Back and Quarterback work fine once you've got it set correctly. For those who have masses of data that must be constantly backed up and really must not be lost, then a tape streamer is the answer.

The PowerStation is certainly worth considering if you're looking to drastically expand your A1200. If you only need a CD drive, then PCMCIA drives exist (see AS49 for a review) and will save you the expense of the Squirrel.

As to a choice between the two versions, the Tower, bought with the Active 75 speakers, offers the best value for money, because even though it costs £20 more in total, the difference between the Active 75 speakers and the internal ones in the Standard version is out of this world; it also gives you more accessible bays for the likes of SyQuest drives. Considering the money you save on peripherals you place inside, SCSI users will be overjoyed with the PowerStation. ■

Active 75 speakers

The Tower version of the PowerStation doesn't come with internal speakers, but all is far from lost. Hi-Q are selling 80W stereo speakers for £50. The Active 75 speakers are compatible with most sound sources, so their use isn't limited to your computer – should you want to attach them to your video, then you can. The sound is fantastic and even when mind-numbingly loud, they suffer little distortion. I've already bought a pair and I can't give higher praise than that.

Hi-Soft Squirrel

The Squirrel is a SCSI Interface that fits into the PCMCIA slot and allows you to connect appropriate devices to your Amiga.

It does, in theory, run from floppy in the same way that you could run the whole set-up on an A600; it's just that nobody would recommend it. An internal hard drive is almost obligatory.

This software includes CD32 emulation and the squirrelscsi.device that the Amiga uses to access any information from any device connected via the Squirrel. There are rumours that an auto-booting version of Squirrel is being planned, which would alleviate the need for the internal drive, but I certainly wouldn't recommend holding your breath.

The only noticeable flaw with the Squirrel is the ridiculously short lead from the box to the SCSI connector. If you buy the PowerStation bundled with the Squirrel, then this shortcoming is addressed with an extension cable.

PowerStation

Prices:

Standard+Squirrel+CD-ROM:	£329.95
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Contact: 0181 9092092

Verdict: 90%

Amiga Shopper Star buy

Designer Objects Vol. 1 Diner

David Taylor *takes a virtual look down the menu and picks out the choice cuts from this collection of objects for LightWave that are dedicated to the American tradition.*

Blimey! Talk about your specialist subject. This collection of objects is a two-disk set that concentrates solely on a 1950's American diner, together with everything you'd expect to find inside. There's everything from a toilet, to a menu, to a napkin holder.

This volume was previously released as a set of objects for Imagine. Terra Nova, their developers, say that the objects have not only been converted, but also optimised for LightWave. They are designed for use with LightWave 3 and some of the surfaces may not come out correctly if used with an earlier version.

Installing the objects is easy enough, but I was quite surprised to see that the archives were in the old LZH format, which made me look into exactly what was on the two disks.

Well, for your hard-won fifty odd quid, you get the objects, as you'd expect, and the surfaces, as well as some ready-prepared scenes for you to render. Also, the first disk is filled up with JPEGs of the rendered scenes. The more I looked, the more it appeared to be an attempt to provide *perceived* value for money, as opposed to *real* value.

Without the JPEGs, it would have all fitted on to the single disk. I suppose that if this really was their game, then they wouldn't have bothered archiving the objects at all. I still think, however, that had they reduced the size of the JPEGs, used a better archiver and filled the space up with some more original objects, they would have been doing 3D-users a better service.

In total, there are around 45 objects supplied, some of these are duplicate images in both hi-res and low-res. The low-res are supplied for you to use in the background and thus save memory, which is essential considering the size of some of the objects. If, for instance, you're rendering the supplied jukebox scene, you require a 13Mb system.

The objects are divided up into directories in order to make it easier for you. The Booth directory contains objects like seats, tables and divider, while the Doors have all the doors in. The Main directory contains the majority of the objects, with even a donut (that's *doughnut* for people who can spell) object for you to eat... sorry, render.

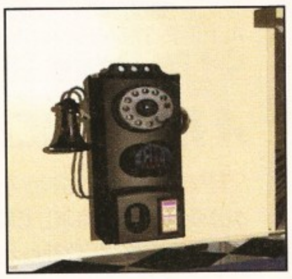
In an attempt to keep down the rendering time, some of the details have been implemented by use of IFF maps. This brings us to the quality of the objects. They are all very professional and very realistic with adequate detail where necessary, but not being overly complex where not. There's no denying that a hell of a lot of effort has gone into these objects, nor that the results are not spectacular. The jukebox and the 'phone are brilliant (so are the toilets, but I don't want anyone getting the wrong idea!) It's almost like stepping in to Twin Peaks, except that there's not a Sherilyn Fenn object (shame).

The drawbacks, aside from the lack of Ms Fenn, are that this is a very specialised field and, although the objects are great if you *really* need them, they won't appeal to many. Also, I fear that £55 is a little steep for what you get. At just over £1.10 per object, I think many people would rather create their own menu.lwob. On the other hand, who fancies modelling that 260K jukebox object?

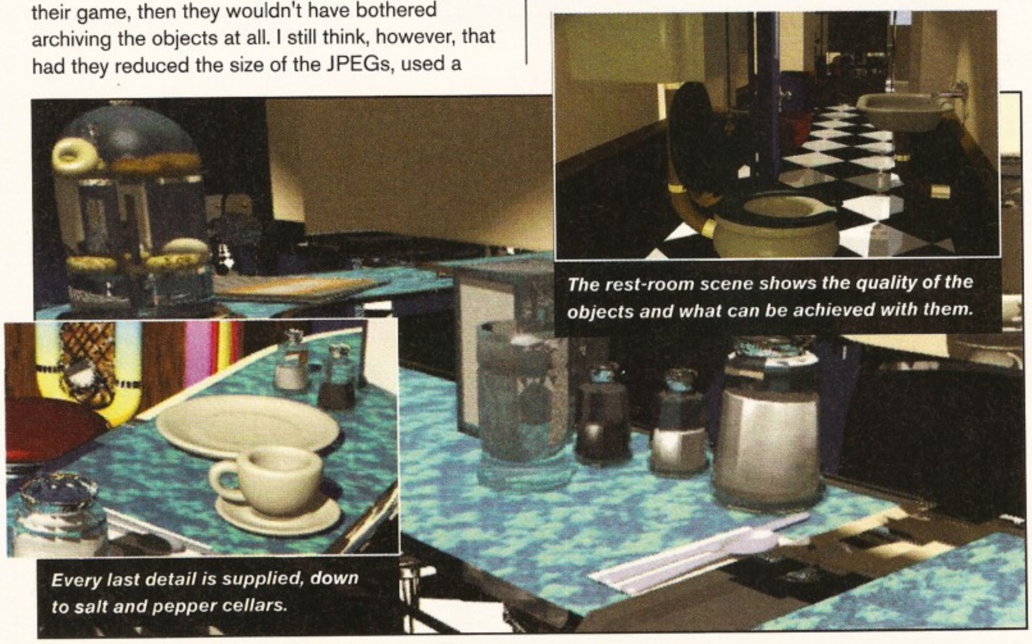
At the end of the day, it's up to you to decide if you need this type of object that much. Personally, I think the money would be better spent on the GFX Sensation CD (see page 44) with 150Mb of PD LightWave objects. Some, but by no means *all* of them, may be of inferior quality, but there's thousands more objects and it leaves you with a spare £35 to nip down the pub and end the evening off with a curry. ■



This jukebox object is visually stunning, but the pre-prepared scene, which is quite bare, still requires a 13Mb system.



The 1950's theme is fully covered, with convincing objects like this cool telephone.



The rest-room scene shows the quality of the objects and what can be achieved with them.

Every last detail is supplied, down to salt and pepper cellars.

Designer Objects V1

Price:	£54.95
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Contact:	01690 770304

Verdict: 72%

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● **Know** of any Blitz user groups? if so, please send me their details. Also wanted, ANY Blitz users for contacts. Mat Tillett, 27 Hillside Ave, Worlingham, Beccles, NR34 7AJ. ☎ 01502 714663.
● **Comms** link for Amiga and Casio SF9600 digital diary. Have software need hardware or anyone who has built same from PD disk. Phone Sean on ☎ 01803 551145.
● **A1200** contacts wanted for swapping utils/demos/GFX/Amos source/ Imagine pics etc. Sorry, no gamers. International contacts also welcome. Write to: Pete, 73 Whitton Dene, Hounslow, Middx, TW3 2JN.
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● **BBS.** 8pm till 8am. Call tonite on ☎ 01162 661610. All users welcome.
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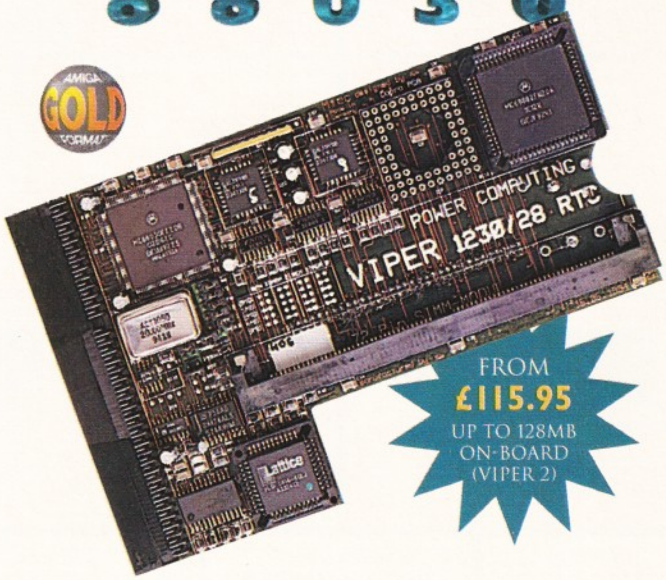
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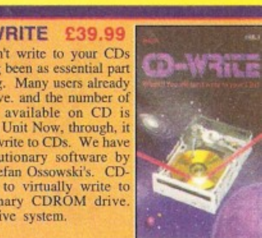


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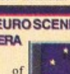
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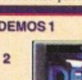
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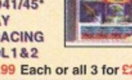


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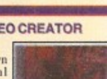
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❑ ^ + 4285 **TOP HAT WILLY V1.2**
Nowadays a platform game means something that scrolls in eight directions at 50hz speed, has power-ups and jump-on-a-monster-to kill-it action. This is thought to be an improvement over the 8-bit-style platforms such as Jet Set Willy or Monty.

❑ ^ + 4302 **YUM YUM**
This is a game for children really. It is essentially a Pac man clone. The levels are very simple and the skill level required is quite low. The graphics and sound effects are quite amusing.

❑ ^ + 4306 **ZZZEP**
In this game you fly a Zeplin. You don't have a great deal to do accept for destroying a whole load of little round things whilst avoiding numerous dangers etc etc.. There is a trainer attached to this game if you find it too difficult.

❑ ^ + 4307 **CRYSTAL HAMMER '93**
A classic arkanoid clone with many excellent and colourful levels as you progress through it. Great graphics and sound effects. Very good.

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Terra-forming eh? What a business. You must initialize the Terra-formation of the planet Mercury by clearing it of five dangerous energy crystals. A thrust type game with good graphics.

❑ ^ + 4311 **PUCMAN**
This, as you may have guessed already, is a Pacman clone. The graphics are good and the playability is just about as close to the original as I have ever seen. an enhanced classic version.

❑ ^ + 4324 **DEMON V1.01**
is a patience cardgame based on one by the name of Canfield. It is reasonably difficult to play but there is a good help system built into the game.

❑ ^ + 4325 **INFECTION**
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❑ ^ + 4326 **TURBO THRUST**
Turbo Thrust involves two player racing high speed spacecraft. With split screen action you can't ask for more. There are tracks a plenty and options for speed and laps etc.

❑ ^ * 4333 **EMERALD MINE V6.0**
Preview ao Emerald Mine v6.00 Editor and Game. Totally rewrittin shareware version of Boulderdash/ Emerald Mine. Includes 4 Playable levels for ECS & AGA; Highscore/names saving and teamwork playing are disabled.

❑ ^ + 4334 **COMBAT 2000**
Welcome to Combat 2000, although it isn't yet. This is, instead a version of the classic mode that will be found therein. Yes there are still bugs and I'm still nagging Andrew,But the game will one day be completely re-written for now enjoy this version. This is a 2 player game.

❑ ^ * 4335 **OZZE**
The galaxy has open up for those species that have mastered methods of Interstellar travel.

❑ ^ * 4336 **TOTAL AXCESS**
Total Excess is a horizontal right to left shoot-em-up It was entirely made with AMOS and a special programing technics have been used to make this game really stand out in a crould. This is a MUST have program.

❑ ^ ^ 4337 **(AGA) A/THRUST**
An Amiga 'Thrust' type game. No 'ENGLISH' docs included. There is an english 'readme' included which gives quite a few hints. - 100% system friendly. - realtime 2-player-mode via the serial port - 2 players can play using the keyboard - it has a font & size sensitive GUI-frontend - lots of extra weapons - your own screens can be created and used - screen size upto 1024x1024 w/32 colors - optional splitscreen/fullscreen mode while playing via modem - sound effects

❑ ^ * 4338 **DELUXE GALAGA**
Deluxe Galaga is based on the game StarBattle (vic20) & has some of the features of Galaga and Galaxions. This is a simple shoot'em up game with good game play but not so much fancy graphics.

❑ ^ + 4339 **NEXUS 7 [ANDROMEDA]**
There are some superb graphical effects in this demo. Included are some outstanding 3D rotating fractals, a great routine showing a desk lamp jumping up a set of stairs, bouncing balls, pixel zooms, great music and much much more! Great.

❑ ^ + 4340 **ZEROS AND ONES [ASYLAM]**
This demo has some original routines such as the part which makes your monitor look as if its going on the blink! There is some more good stuff such as a spinning transparent multicoloured cube and excellent music. Good.

❑ ^ ^ 4341 **(AGA) SOULKITCHEN (AB)**
A great AGA demo! There are loads of different effects such as bouncing vector balls, some kaleidascope effects, a great cartoon picture and a superbly funky soundtrack. Excellent!! Does not work on non standard A1200s.

❑ ^ + 4343 **(AGA) JAMMIN' [HAUJOBB]**
A superb demo. The graphics in this demo are of an outstanding quality. The demo runs through very smoothly with some great logos, effects and more. The soundtrack in the most part has a reggae feel.

❑ ^ ^ 4344 **DEMO OR DIE**
A great production. There are some good original effects in this demo. One outstanding routine involves a dot vector skull rotating and then morphing into a dot vector hand. There is some good morphing of portraits at the end of the demo

❑ ^ + 4345 **(AGA) TENSION [APEX]**
Great AGA demo. There are some superb routines including one which has the APEX logo scrolling over a rippling landscape. Some great graphics here as well as a good soundtrack. Good.

❑ ^ + 4346 **RUMBLE RUBBLE**
A pretty bog standard sort of intro. Good graphics, good soundtrack, all the usual effects - dot vectors, bouncing balls etc plus some original routines such as the realtime raytracing of a rotating sphere!.

❑ ^ + 4347 **KILLING TIME (ABC)**
This demo starts off well with a 4096 colour rotating pixel zoom. Then everything gets rather long winded and boring. A three disk set which has some pretty good effects but nothing spectacular.

❑ ^ + 4350 **TRSI**
Another great demo for the Amiga. There are some great graphics in this production as well as a good little soundtrack. Nothing unusual or particularly original but indeed a very good demo. Great.

UTILITY DISKS

❑ ^ + V1523 **RELOKICK V1.41**
Howdi doodlely doooo Amiga freaks! It's ANOTHER(!) version of ReloKick.

❑ ^ + V1611 **SNOOPDOS V3.0**
will log all the dos/library calls and more when you run a program. This is handy for both the programmer and the beginner. For example; Have you ever installed a program to your harddrive and then discovered that it will not run without a certain library but you don't know which? .

❑ ^ + V1628 **STAR TREK OBJECTS**
❑ ^ + V1630 **BABYLON 5 OBJECTS**
❑ ^ + V1631 **ALIENS OBJECTS**
❑ ^ + V1637 **BABYLON 5 OBJECTS 2**
❑ ^ + V1641 **SUPER KILLERS V10.0**
Contains the latest collection of virus killers like AntiCicloVir v2.2a, Virus Checker v6.43, VirusZII v1.07, and VT v2.67, Req LHA.

❑ ^ + V1649 **REFLEX**
Interesting program. It uses an artificial intelligence system to create a personaty for your Amiga.

❑ ^ + V1659 **MSDOS 4 AMIGADOS**
A very interesting utility which should be useful to anyone who uses both PCs/Amigas. The tool allows you to create a directory on which you can store MSDOS commands & then they can be used through the shell as if they were AmigaDos.

❑ ^ ^ V1661 **(AGA) NAT/ LOTTERY**
A national lottery prediction program called Lottery Winner. It consists of a database system which can record the National Lottery results from week2week until it has sufficient data to make certain types of predictions or just a guess.

❑ ^ + V1662 **GAMES INSTALLER 2**
Contains a variety of hard disk installers for a few well known commercial games. These games are as follows: AlienBreed 2 AGA, Jungle Strike, Assassin (Special Edition), Body Blows, Goal, Ishar 2, Zool 2 AGA, Ruff and Tumble, Body Blows 2 AGA, StarDust, Super Frog, Walker, Rise of the Robots, Bubble and Squeak, ElfMania, Aladdin AGA and Motal Kombat 2. Great.

❑ ^ + V1669 **TUDE V1.0**
The Ultimate Degrader is a very extensive & easy way of degrading your machine for all sorts of purposes. It is useful for playing old game on A1200s for example which need kickstart 1.3. There is a GUI version included as well as a CLL version so most people will have no trouble using it. A highly useful tool for all Amiga owners.

❑ ^ + V1675 **BANK MANAGER V1.1**
❑ ^ + V1688 **F1GP-ED V2.04**
will work on any version of F1GP, including the A600 WWW version which was not supported in V2.03 because of a bug. F1GP-Ed allows the user to customize their copy of F1GP.

❑ ^ + V1695 **DALEK OBJECTS**
More imagine objects, sujects or headings like Dareks, Free datasets (3D objects) Imagine format.

❑ ^ + V1701 **GRAPHIC CONVERTERS**
AGAIFF16, IFF-Converter (many formats). V1.60. AMGIF, Convert IFF to GIF. APCD, Convert PhotoCD picture to IFF. ART_PRO, ART-Pro , a powerful gfx-converter. (2)

❑ ^ + V1709 **HINTS & CHEATS**
ACHEATS, Amiga game cheats by Postcard Man. AMI_CHEAT, cheats, level codes, backdoors to 453 Games. CATACOMB_MAP, A map for the brilliant game Catacomb. FRONTIERHINTS, Hints and Tricks for Frontier - Elite II. GCHEATS, Sega Genesis cheats by Postcard Man. SCHEATS, Super NES cheats by Postcard Man. VALHALLA, Walkthrough for Valhalla. WIZBALL, Little ASCII file containing level descriptions for Wizbal!.

❑ ^ * V1710 **ADDITIONAL ICONS**
Newiconsextra include: - 2 variations of drawers, each with its own theme. - SGI Folder like drawers - Filing cabinent drawers - Icons for all sorts of PD apps [like degrader, etc] - Icons for all sorts of other things [toaster, par, games, etc] - and more!

❑ ^ + V1711 **FIG**
is a menu-driven tool that allows the user to draw and manipulate objects interactively on the screen of a Sun Workstation. It can only be run within the SunWindows & requires a three-button mouse.

❑ ^ + V1712 **AIBB V6.5**
AIBB is a system performance analysis tool designed with built-in tests for exercising CPU, FPU, and graphics portions of system performance.

❑ ^ + V1714 **GEOGRAPHICAL ATLAS**
Amiglobe allows you to navigate round the world in full 3D It gives you many datas about countries and position of main towns and mountains. Unlimited zoom feature included. Requires use of LHA command and a hard drive. (2)

❑ ^ + V1718 **VIRUSWORKSHOP V4.8**
This virus-killer was programmed to help you to get rid of all the viruses hanging around. Its best and most useful virus killer program to date in my view, takes over where BootX left off.

❑ ^ + V1719 **TELETEXT-DECODER V2.3**
V2.3d (serial) of the videotext/teletext-decoder software for the HSL VideoTXT decoder. It features + load/save/print of gfx/ascii-pages, background receive/save, + international charset support + hidden chars, blinking, + setclock, + works on all Amigas

❑ ^ + V1721 **JPEG TO AGA CONVERTER**
This program converts ppm, pgm and pbm files to IFF-ILBM with support for AGA graphics modes. Binaries to support the JPEG file format are included. To convert other formats you will need the NETPBM package available on Aminet.

❑ ^ * V1722 **AMIGA TO PSION S3/A**
AmigaNCP is a implementation of the Psion link protocol which is e.g. built into the Psion S3/S3a palmtop's ROM. It's main purpose is to provide vice-versa nfs-like file access.

❑ ^ * V1723 **VIRTUAL REALITY [020]**
This program allows you to walk, drive and fly around in a 3 dimensional computer generated world in realtime. It is used to visualize architectural, industrial and artistic designs for presentation or analysis purposes.

❑ ^ + V1724 **ZX-SPECTRUM EMU V4.71**
Is the first release of this emulator, earlier versions were demo versions and were not released by the author !!! This emulator enables you to run almost any program that runs on a ZX-Spectrum.

❑ ^ * V1745 **TERM V4.2 [030]**
The latest version of this very well known comms terminal program. Version 4 has even more features and although it is not for beginners it is probably the best available. Very good.

❑ ^ * V1747 **MAGIC-BACKGROUNDS & MAGICWB ICONS**
This package is a patch to MagicWB, the 8 bitplanes XEN-Icons have been converted to 3 bitplanes icons whith will take less CHIP RAM in your system. This is the fourth release of my Magic-Background-Collection with ten (not nine nor eleven $-) brandnew backgrounds for your lovely Magic-Workbench. This time you will get some 'winter-pictures' whith ice and snow 8!

❑ ^ + V1751 **PRINTER DRIVERS**
CANON600 v2.0 - EPSON FX-850 v1.0 & LX-800 - HP4DRIVER v35.8 - HP4LSETTER v2.01

❑ ^ + V1754 **FERN GULLY COLOURING**
Select your background, choose a character then you can colour the picture in using your mouse.

❑ ^ + V1755 **BARNEY MEETS SANTA (AB)**
Digitised voice which narrates the story & explains what you must do in the various games & puzzles.

❑ ^ + V1757 **ROCK-A-DOODLE COLOUR**
Select a background, choose a character to paste on top, before colouring the whole picture in.

❑ ^ + V1758 **SENIOR QUIZ - FIRST AID**
Many many questions and answers about first aid. So if you're a budding paramedic then you can hold a quiz night with this disk.

❑ ^ + V1759 **JOES TYPING TUTOR (AB)**
The actual typing lessons are quite good & once you start typing there are many different lessons.

❑ ^ + V1761 **KIDS DISK 6**
A game which allows the user to run a shop. They have to fill out the reciepts for each order & give correct change etc.

❑ ^ + V1762 **A WITCHES COOKBOOK**
Magazine which contains many recipies for herbal remedies. Various substances such as antiaging cream, tinctures, oils and other ointments.

❑ ^ + V1763 **RECIPE/RECORD**
This is a program for the recording of recipies and the like. You can use this system to create a database of different meals, foods or even wines. Simple to use and hard disk installable. Good.

❑ ^ + V1765 **SHIP'S COMPUTER LIBRARY**
One for those trekies out there. is a simulation of the computer you might find on board the Starship Enterprise. You can look up allsorts of information about the federation fleet etc.. Very good. (3)

❑ ^ + V1768 **SET UP PROCEDURES**
If you don't know how to create your own self booting disk then get this. Included is a text file detailing the set up procedures which need to be undertaken to create a self booting disk.

❑ ^ + V1769 **PREDICTION TOOLS**
There are four tools included on this disk. Amiga Punter is a program which will try to help you predict the out come of horse races.

❑ ^ + V1771 **COURSE FORM**
Like to put a bit of money on the horses? This utility allows you to enter the figures for the horses in a particular race, plus the course details.

❑ ^ + V1774 **TELEPHONE BOOK v3.1**
This is a very simple but effective program which will store phone numbers and also there corresponding names and addresses. Easy to use.

❑ ^ + V1778 **LOTTERY CHECKER**
is a great tool for checking lottery numbers. Good for office syndicates. Find 'A' Date is a database which stores & matches people up for blind dates. Sneaker is used to view/change binary files.

❑ ^ ^ V1779 **DIY REKO**
Do It Yourself Reko is an ImageFX arexx macro which makes Reko cardsets (for Klondike AGA) virtualy automatically, saving you lots work.

❑ ^ + V1783 **LIGHTROM 1+2 EXAMPLES**
❑ ^ + V1784 **STARTECK GENIES V1.0**
Seven must have genies for anyone with Professional Draw. The genies are PieCharts, Stars, Emboss/ Engrave, ScalePercent, ZoomWindow, SelectByAttribute and GridSet. Well documented.

❑ ^ * V1785 **TOOLS & MENUS**
CATCHDISK v1.20 - A simple commodity for auto-formating bad/unformatted disks. CHKSUM v1.0, ToolsDaemon v2.1a - Allows you to run programs simply by selecting a menu item from the menu strip of Workbench 2.0. WindowDaemon v1.9 - gives extended control to intuition windows and screens through HotKeys and Arexx.

❑ ^ * V1786 **MAGICMENU V1.29**
Replaces all Intuition menus, supporting both pull-down and pop-up menus. Menus can be displayed in either the Standard look, or the modern AmigaOS 2.0 style 3D-Look.

❑ ^ + V1787 **ATTRIBUTES V2.0**
Contains a full disk of attributes

❑ ^ + V1788 **LENSFLARE OBJECTS**
This is the staging file to render an animation showing an lens flare that move with the light source. objects,brushes and explanations included.

❑ ^ * V1789 **COMMUNICATIONS (ABCDE)**
AmiTCP v3.0, Terminus v2.0d, Source/Developer Kit for AmiTCP v4.0, AmiTCP/IP 4.0. AmiTCP/IP, FTPDaemon v2.0.

❑ ^ + V1794 **AVMNFAX V1.33 (AB)**
This fax program can be used with Class 1 and Class 2 fax modems. (2)

❑ ^ * V1796 **MAGICUSERINTERFACE v2.3**
MUI is an object oriented system to create and maintain graphical user interfaces. (2)

❑ ^ + V1798 **TURBO MODULA-2 v1.40 (AB)**
Compiler is commercial quality: its fast, generates small & fast code, doesn't eat too much memory & the error reports are normally very accurate.

❑ ^ + V1800 **AMINET CDROM DETAILS**
The complete Aminet on 4 new CDs, desc and index, also includes aminet 5 listings.

❑ ^ * V1801 **VIRTUAL WORLDS V1.017**
is a new adventure creation system which allows users to easily create large text & grx adventures.

❑ ^ + V1802 **TEXTURE GUIDE CREATOR**
This File will convert your Original texture.txt & litetex.txt files that comes with Imagine 3.0 into an Easy to use Amiga Guide File.

❑ ^ + V1803 **ADPRO FRONT-END V2.4**
fixes several bugs in 2.3, as well as adding several new screen modes & picture layouts.

❑ ^ ^ V1804 **IMAGEDESK V1.2 (AB)**
a program to catalog picture directories. By this small representants of the pictures, so called thumbnails are being generated & internally expanded to objects which will include all essential attributes

❑ ^ * V1806 **MAGIC SELECTOR V1.60**
is a program who select different background & SoundFX in Workbench each time you are booting up you Amiga. Some Patterns/Sounds are included.

❑ ^ ^ V1807 **SPECTRUM EMULATOR V1.6B**
This program is a Sinclair ZX Spectrum 48k emulator. It needs WB 3.0+, 68020+ and AGA chipset (68020+, WB 2.04+ and any kind of chipset for the OCS/ECS version).

❑ ^ * V1808 **ROMAN'S MAGIC WB ICONS 7**
New, high quality, standard size, MagicWB2.0-style Icons/ImageDrawers and other MWB-stuff. RomIcons7 is Cardware. (2)

❑ ^ * V1811 **IMAGESTUDIO v2.0 (AB)**
is written for the casual graphics user who wishes to convert or manipulate various graphics formats on a modest Amiga system.

❑ ^ + V1816 **DOPUS MAGIC COMPANION**
Loads of extras for use with Diectory opus program. Arexx files, Utilities and loads more!

❑ ^ + V1818 **EASY DMS**
DMS used by most cdrom systems for storging disks is now easy to use with the excellent system.

❑ ^ * V1819 **MAGIC WB EXTRAS 5**
Another selection of the finest programs, icons etc for use with The Magic Workbench system (2)

❑ ^ + V1821 **MSX EMULATOR V1.2**
This package includes three flavours of a MSX emulator, MSX 64kb, MSX 256kb and MSX-2. This package is an unregistered shareware program.

❑ ^ + V1822 **PATCHES**
68030 Patches for FinalWriter 3.0 This patch speeds up FinalWriter 3.0 on all 68020/30/40 machines, things like font rendering and internal arithmetic will be up to 400% faster!. SAS/C V6.55 bug fix for Amiga SAS/C 6.50 and SAS/C 6.51

❑ ^ + V1823 **BAUD BANDIT BULLETIN BOARD SYSTEM V8.4**
Up to 99 file libraries with extended filenotes. Up to 99 fully threaded message conferences. Number of users, files, messages, etc. are only limited b storage space. Controlled file library and messag conference access for users & sysops. Interface extra devices like CD-ROM & others, all treated Read-Only. Complete Email area including binar mail, and multiple forwarding.

❑ ^ + V1824 **DUST TUTOR (ABC)**
Tutorial to help you to become familiar with Dus Contains many small animations and a guide-file english.

❑ ^ + V1827 **EGS PHOTO ALBUM**
Picture management and presentation software f EGS. Offers access to large collections of pictur and animation files. Supports DataTypes!

❑ ^ + V1828 **FAST IMAGEFX LOADER**
This is a very fast universal loader module f ImageFX and ImageFX-EGS.

❑ ^ + V1829 **IMAGEFX 2.0 DEV KIT**
Developers kit will allow most amiga programme to develop modules for nearly any part of th ImageFX 2.0 system.

❑ ^ + V1830 **IMAGE DESK V1.3**
Program to catalog picture files by creatin 'thumbnails'

❑ ^ + V1831 **IMAGINE 3.X OBJECT OF USS ENTERPRISE**
This object can be rendered w/ Imagine 3.x onl Very nice Rendering of the USS Enterprise.

❑ ^ + V1832 **80 QUESTIONS**
This is an educational study aide. It allows you create a 'flashcard' type test to study by.

❑ ^ + V1833 **ARCTANGENT'S BACKDROP & S/U PIX VOL 3**
collection of backdrops and startup pics for th Amiga. Vol 3!

❑ ^ + V1834 **MAGICWB PALETTE & FOXXICONS**
Darker version of MagicWB palettes 35 total Pretty Magic WorkBench icons for Sound and Mis

❑ ^ + V1835 **NETBSD-FAQ**
NetBSD-Amiga is a full-fledged unix operatin system for the Amiga.It is a combined effort of user in many countries Is freely redistributable,and constantlyimproving. You need MMU in your Amig to run NetBSD-Amiga. Amiga users who are feelin increasingly isolated can now jump on the Uni bandwagon and still keep their Amigas.

❑ ^ * V1836 **MRBACKUP V2.1.4**
is a hard disk backup program for the Commodor Amiga family of computers. It provides a wid range of services to support Amiga file managemen and backup/restore of files to/from hard disk.

❑ ^ + V1837 **DISK DOUBLING V1.9B**
This package allows you to create virtual partition pn your HD. Files stored in such partitions g automatically compressed and decompresse whenever you access them, in a transparent way

❑ ^ * V1838 **VMM V3.0**
VMM Implements a virtual memory manager f Amigas with a 68040,68030 or 68020+6885 processor. A localized user interface to enter a parameters and to disable certain tasks and loa files from using Virtual memory is also provided F the user interface MUI 2.3 is needed.V3.0 include the ability to swap out program code,memor tracking,better MMU support, an Arexx port an some other new features.

❑ ^ * V1839 **MAGIC WORKBENCH 1.2P**
A superb utility! Magic Workbench complete wipes over all those horrible workbench icons replacing them with its own versions. It also ad patterns and changes your workbench fonts. The en result is a much more attractive workbench. Eas and safe to install. Looks great!

SPECIAL NOTE

All the disks BETWEEN V1501 to v1750 and disk 4001 to 4300 are included on the Hottest 5 CDROM (See the other page of this advert for more details Higher numbers will apear on Hottest 6 coming out the next 3-4 months.

CODES & SYMBOLS

(+)	Workbench 1.3x and higher onl
(*)	Workbench 2.0x and higher onl
(^^)	Workbench 3.0x and higher onl
(^)	Works on WB3 & above
(!)	Not Workbench 3.0
(-)	Not Workbench 2.0
(?Mb)	Req ?Mb amount memory to run (2M
(?)	There's ? disks in set or (AB=
(K)	Requires disk V1523 KICK to ru
(>)	NOT! on an A60

CD112 AMINET 1-4 QUAD PACK £27.99

CD107 AMINET5 £14.99

UK Number 1 Stockest

The Aminet CDROM Range

Aminet is worlds largest collection of freely distributable Amiga software. Up to 10,000 users access the vast archives every day, and countless programmers publish directly via the Aminet. Only 3 years after its inception Aminet now holds the equivalent of more than 4,000 floppy disks of software! Untill recently access to Aminet was restricted to international network users. With AMINET SET1, consisting of 4 CDs, the complete archive is published for the 1sttime. Aminet Set 1 dated 1st of January 1995, consists of approximately 4 gigabytes of software in 12,500 archives. Whether you like applications, games, utilities, networking software or programming languages, the Aminet CD offers an almost inexhaustible reservoir of top value FD software, Improved user friendly access software make the set a pleasure to use.

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Aminet 5 - dated March 1995, consists of approximately 1.1 gigabytes of software in 3600 archives. Since the release of Aminet CD 4 more than 448 MB new software has appeared since the release of the Aminet Set 1 214Mb of new software has appeared. The current edition has a special focus on games, more that 1000 games from Aminet were included. User friendly access software.

CD053 *The Professional IFF / PCX Clipart 2 £19.99

Comes in both IFF and PCX formats to cover both PC & Amiga users. includes such categories as animals, boys, cultur-al images, floral and natural images, girls, holiday images, literary figures, mythological images, scenery, transportation, and work images. The disc contains drawings of bears, cats, dinosaurs, dogs, insects, and horses. Cultural images from Egypt, Japan, Native Americans, Polynesia, and Persia are also included on the disc. Floral and natural images include blossoms, planets, sky, the sun, trees, and weather. Comes complete with a 250 page book with most of the images printed. Other sections on the cdrom are Walpaper backgrounds for Windows & Workbench v2.0+, Grx utilities, viewers and converters, Icons and loads of Magic Workbench software.

Includes a 250+ BOOK

CD101 *THE SOUND LIBRARY £19.99

Over 1,000 Megabytes of the best quality Public Domain / Shareware software for Amiga and PC computers. Its the most comprehensive collection of sound related software and musical data to date.
The Sound Library includes: MIDI files in various formats (MDI, MDI, MIM...) Hundreds of Megabytes of excellent music to listen too, (or change/edit them to insert them into your own applications), over 5,000 MODULES or MODS. Over 1,000 VOC files, Over 1,000 WAV files, Over 1,000 Samples and hundreds of ready to run music related software titles, converts, sequencers, Applications, drivers, Information, Players. AMIGA ONLY: latest versions of Sound Tracker, Pro Tracker, MED, Noise Tracker, EdPlayer, Rippers, Samplers, Sound Effects Pro Wizard converters and some much more. PC ONLY: latest version of Whoop-it for windows, Drum Blaster, Tetra sequencer, Blaster Master, Windows sound utilities, Trak Blaster, Acce Musicsystem, Multi Media Jukebox, Cinema, MOD4Win, Music Sculptor, Saris UP, PC Drummer, and much, more!.

DOUBLE CDROM

CD141 THE LIGHT WORKS £39.99

Raytracing - a fascinating area of the computer graphics. Pictures from the computer, perfectly rendered fascinates people all over the world. A real artist of raytracing is Tobias J. Richter from Germany, whose detailed objects all who use them. Especially his space ships of famous science fiction films are used to demonstrate the capabilities of a raytracing program. Until now it was difficult to accquire these objects in order to create your own scenes or animations. THE LIGHT WORKS CDROM contains mainly objects created by Tobias J. Richter, together with surface textures, ready to use in Cinema4D, Reflections and Imagine. But also for those who don't know that much about raytracing, there is some material on the CDROM: more than 100 rendered pictures and several animations demonstrate, what is possible with these objects. If you want to play around with the objects, you can use the demo versions of Maxon Cinema4D and Reflections on disk. These are versions with some functions disabled. Also a huge amount of PD pictures and animations.

CD144 R.H.S COLOUR COLLECTION £19.99

An excellent collection of colour fonts, colour clipart with directory headings like Astro, Cartoons, Computers, Dinos, Fantasy, Flight, Girls, Kids, Nature, Sport, Fish, Boats etc. The Canny Font selection, Deko font library, The Farb-bilder picture slide show selection, The Profi-Bilder Pack and loads, loads, more. The fonts shown are obly a small selection of the fonts to bw found on the disc and just wait to see you see the colour clipart. A colour printers dream is to be found.

CD061 PRO UTILITIES V1-V1500 £19.99

Contains all of our Various disks From Number 1 upto 1500. Sujects covered like Sound Samples, Instruments, Modules, pictures & Clip art mono, colour, Educational, Business utility disk, Graphics & Music production, HD utils, Workbench utilites, comms, Virus killers, Video produ, Emulators, Hobbies, Programming, fractals, Printer utilities, Satabases, game related , sound related software, Animation , home and prediction, hard drive software, cd rom related, Med and Octamed, Design work, Amos, demo makers, Cheats disks, vector objects, degragers & kick ults, Art disks, CAD, compresion software etc. Workbench ready cdrom.

CD091 *POV-RAY £19.99

Create 3D Graphics like this! No artistic ability required!. The Official POV-Ray CDROM is a compilation of images, scene source, programs, utilities & tips on POV-Ray & 3D graphics from the Internet and CompuServe. Unlike some other raytrace compilations this one is aimed fairly and squarely at those, who want to create their VERY OWN images.



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All your old favourites.. Thrust, School Daze, Jet Set Willy, Atic Atac, Galaxians, River raid, Startrek, Uridium, Under Wurlde, Boulde-rdash, Manic Miner, Jetpack, Sentinel, Barbarian, Hunchback, Micro Olympics, Dan Dare, Monty Mole, Danger Mouse, Hungry Horace, The Hobbit, Snooker, Poker & over 500 more titles. Includes Emulators

CD011 SOURCE CODE £19.99

The Source Code CDROM is broken down into 5 separate categories. The first is the Usenet archive. This section contains 213 MB, almost 73,000 files, including the net.sources archive and the comp.sources archives for 3B1, misc, games, reviewed, X and Unix. Most of this code is in C.

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How about every single font we have ever produced! over 4,000 Adobe type 1 font files, 1,500 True Type Fonts, Prodraw Fonts, IFF Mono /Colour fonts, Pro Page II Fonts, Page Setter II Fonts, Also a wide selection of clipart Over 5,000 PCX files, 300 GIF Pics, 1,000 .EPS Format, & 2,379 TIFF files. idea DTP Users.

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This month's winner is Paul Firth, a college student. The image was produced on an A3000 with 6Mb RAM and 12Mb Virtual RAM, using Imagine 2,9 FP. It took two whole days to render. If you want to win £25, render or draw a picture, save it as a JPEG and send it to: **David Taylor, Future Publishing, 30 Monmouth St, Bath BA1 2BW.**



Welcome to the section of Amiga Shopper where all your Amiga-related problems are sorted out for you by our panel of experts. You'll be wondering why Graeme's pic is still here, I'll bet. Well, he's only just defected to Amiga Format and actually worked on Amiga Answers before he left. So we thought it was only fair to put him in. Our new Coverdisk editor and all-round technical chap, David Taylor, will be given the red and yellow treatment next month.



Paul Overaa is our Operating Systems programming expert. He has written several books, including: Mastering Amiga Assembler, Mastering Amiga ARexx and Mastering Amiga C. His main interest is in program-design and he is heavily into the music-side of the Amiga. Paul's other interests are red wine, maths and wind-surfing!



Gary Whiteley is our expert on video and graphics. He regularly produces work for films and TV. Gary has also written books – amongst them is Amiga Desktop Video, published by Future. Gary also regularly reviews new products for Amiga Shopper – if you turn to page 40, you'll find out what he thinks about Broadcaster Elite.



Toby Simpson is our code clinician. He writes our DICE and Assembly tutorials. He has written several books, including ARexx: Your Built-in Turbocharger, published by Future. Toby's day job is working for Millenium Software, programming their games, which just goes to show that he knows a thing or two about his subject!



Larry Hickmott is our DTP and word processing expert. He produces his own DTP magazine called Em and has written several books on his favourite topic. He has just finished a book called the Wordworth Companion for Digita and Future Publishing's books division. He has written our huge Supertest of printers this month (see page 22).

AMIGA ANSWERS

Say your farewells to Graeme, because as from next month David Taylor will take over. He will continue to make sure that you get all your questions sorted. You're in good hands!

What price colour?

Video

I have an old monochrome Rombo framegrabber, but I would now like to move over to a colour and, preferably, real-time, digitiser.

The ProGrab 24RT would be fine price-wise, but according to the Harwood advert in AS44, it supports "any Amiga with Kickstart 2.04 or later and 1.5Mb minimum free RAM".

At present I have an Amiga 500 with just 1Mb of (chip) RAM, and Kickstart 1.3. Can I replace the latter with Kickstart 2.04 and, if so, what is involved? Can I also add additional RAM in the spare sockets on the motherboard? Or is there a better approach to the problem?

If the ProGrab is not practical, would the Datel 15-bit real-time colour grabber advertised in AS47 be much less effective?

Ian Mitchell
Troon, Ayrshire

Honestly, by the time you've shelled out £90 for a new Kickstart chip and Workbench 3.1 (the full 2.04 version now being almost unobtainable) and spent between another £40 and £100 on RAM for your A500, you might as well have spent a little bit extra and bought a second-hand A1200. At least then you'd be getting a capable modern Amiga, able to run far more software than your stalwart (but aging) A500 and also able to directly support the ProGrab 24RT and display all the colours you need – unlike the A500, which can only handle 4,096 colours maximum (and that's only in lower resolutions).

An A1200 will also be much faster than your A500, so you won't spend as much time waiting for disk access, images to process etc., etc.

If you really have to stick with your A500, you might also consider Rombo's Vidi-Amiga 12 or Vidi-Amiga 12RT, both of which should work with WB1.3, though you'll still need to add more memory to your A500 (and, no, you can't use those empty sockets).

Finally, I don't know anything about the Datel grabber, though 15-bit means that you can grab in 32K colours, although your A500 will only be able to show 4,096.

I still recommend that you think about that A1200/ProGrab 24RT combo instead. ***Gary***

Answers contents

If you are looking for a solution to a particular problem, why not try using this handy index to the questions in this issue. It's arranged by topic, so if you are being kept awake at night by a noisy hard drive, then be on the look-out for any mention of hard disks.

Return to Vista

Software

Regarding the "Weird vistas" problem in AS48, I have also had the same trouble with colours becoming scrambled after the first frame when rendering a VAnim. I have the full version of Vista 3.05 (not the cut-down A1200 version). This is what I have found:

Mode	Palette	Frame colours
32	No Lock	OK
EHB	No Lock	OK
HAM	No Lock	OK
256	No Lock	Scrambled
256	Locked	OK
HAM-8	No Lock	Scrambled
HAM-8	Locked	OK

The ReadMe.doc file, "Changes Since Version 3.00" mentions the following:

"3.03c – Fixed bug where IFF anim mode did not save AGA modes correctly." Could the bug have crept back in when they released v3.05? Also, is it possible to convert a VAnim into a normal anim format file?

Stephen Tse
Eastbourne

Well, I guess the bug could have crept back in, but, of course, I can't say for sure, but thanks for your comments anyway.

As for converting VAnim files to normal anim formats... no, I don't think it's possible. Or, at least, I can't think of a way of doing it – maybe one of our readers knows better. ***Gary***

Smoothing over the cracks

DTP

My knowledge and understanding of computers is very limited, but I am keen to try to expand my understanding of it all. I presently use my Amiga 1200 for nothing more than a little word processing and managing a database. The 1200 was bought with no extra memory, hard drive or whatever.

I wish to use the Amiga to carry out the functions as shown on the attached "Caring Memories" leaflet based around restoring old photographs. I have no idea what is required to upgrade my Amiga to the standard needed to perform the above functions, so any possible help or recommendations that you are able to make would be really appreciated.

For example, how much extra memory and what type of printer, scanner-monitor, hard drive and programs would I need?

Mr Charles W Steel
Dunstable

Photography is a subject close to my heart

having spent 12 years working as a photographer in the commercial sector. Like many photographers, I have seen computers introduced to the profession, giving us tools which weren't even dreamed of back in the early 80s.

The bad news is that an unexpanded 1200 is going to be a little light on power to perform this sort of work. Before reading on, take a seat, because I'm going to spend a year's wages for most working people.

The first tool you will need is a scanner. This is to get the photograph into the Amiga so that you can alter it. A flatbed scanner is what you need for this exacting type of work and a good choice is the Epson 6500, costing around £700.

In order to use a flatbed scanner, you will need a large hard drive – the bigger the better – and when I say big, I mean 500Mb or bigger. I have a 720Mb one which is almost full, with most of the files being graphics. Along with a drive this size, I had to get a bigger power supply as well. This will depend on your Amiga. I have two 1200s, both with 720Mb drives, and one needs extra power while the other does not. Cost of the hard drive is around £300.

Going hand-in-hand with scanning is memory. Scanners like the Epson 6500 work in 24-bit (for colour work) and you'll need a lot of memory to handle pictures like this. I only have 7Mb and this is severely restricting although I don't do the type of work you're aiming at. If I did, I would get an accelerator card with a 68030 (with MMU) on it and at least 10Mb of memory.

If, for example, someone wanted a 10x8 photograph scanned, even at a low resolution, you are going to need upwards of 24Mb, just so your software can load the image into your Amiga. Memory isn't cheap and you can expect to pay anywhere from £300 upwards.

The reason for choosing a 68030 card is so that you can expand your Amiga's memory beyond the normal 10Mb limit of a standard processor. As for software, there are very few packages about on the Amiga that support scanning to any degree. The best support seems to come from Nova Design's ImageFX 2. This has a number of retouching tools, although for more control in this area, you could also consider Photogenics and Brilliance 2 on top of ImageFX. Photogenics I'm told is soon going to have scanner support for many popular flatbed scanners at realistic prices.

It's worth mentioning ImageMaster 1.5 which also has scanner support and is very affordable. ASDG's ADPro is another choice worth a shout, but the scanner module is separate to the program and is not cheap. Prices vary, but start at £60 and go up to £180 for ImageFX 2.

High-quality monitors, like the Idek 17 inch, are around £700 and, although worth every penny, it is a significant purchase.

The last piece in the jigsaw is a printer. To produce photographic-quality images, a dye sublimation printer is a must and they cost from £1,000 upwards. Another choice is to take the image to a bureau that has a film recorder, where you can have your image transferred on to film. This can then have traditional photographs printed from it.

All up, that little lot is going to set you back many thousands of pounds and everything is essential. You could get someone to scan the images for you and someone else to print them, but that just creates more problems because you need to transfer the images between your Amiga and someone else's computer. Scans of this nature won't fit on a floppy disk and this means turning to removable media.

No doubt, I've probably put you right off the idea and although you could do something on a much smaller scale with hand scanners and so on, to produce professional quality images, you need professional equipment and the computer is only a small part of that. Good luck! ***Larry***

Diskfont library



I have an A1200 and have just bought TV Text Professional. In trying to load the Zuma Outline font (as per the little white upgrade manual) I find that I cannot open Intellifonts and the message 'Cannot open diskfont library version 37' appears. Can you help?

Sid Holman
Nr. Watlington, Oxfordshire

It sounds as though you might have an old version of the diskfont library in your hard disk libs drawer which doesn't support the use of outline fonts. Get out your original Workbench 2 AmigaFonts disk, which does contain version 37 of the diskfont library, and copy this to your hard disk using this Shell command line...

```
copy amigafonts:devs/diskfont.library to
sys:devs
```

Once you've got the right library present in your devs: drawer Intellifonts should start working. ***Paul***

Amiga to Mac monitor?



My Macintosh LC can be connected, via a cable adaptor, to an SVGA monitor. This is the same type of monitor which *could* be attached, if I had one. In the same vein, can my Amiga A500 Plus be attached to my LC's 12 inch RGB monitor, thus saving me a great deal of desk space and freeing up the TV?

Peter Hickman
Brighton

I've got bad news for you, Peter. It is highly unlikely that you'll be able to connect your A500 to any Apple monitor, including the AppleColor RGB monitor which I think is probably the one you're referring to.

The biggest obstacle is that your A500 puts out a standard PAL, 15.6Khz horizontal scan, video signal, and the AppleColor monitor requires an input of 24.48Khz, which is rather non-standard. This means that you'd need some way to boost the A500's output up to 24.48Khz, and there's no way of doing it as far as I'm aware.

On the other hand, there were deinterlacing cards (such as ICD's Flicker Free Video card) available for the A500 which would double the scan rate to around 31.2Khz so that VGA and SVGA monitors could be used to provide rock-solid displays, but these won't provide the 24.48Khz required by the Apple monitor. Deinterlacing cards for the A500 are also quite hard to get hold of nowadays.

One further drawback to the AppleColor monitor is that it only has a resolution of 512x384 pixels, which isn't going to look too good with your Amiga! And, then, there are the Macintosh's non-standard connectors, built-in sensing and general incompatibility with all things non-Apple to deal with.

If you had an SVGA monitor (and be aware that not all SVGA monitors will work with the Mac either) and a deinterlacing card for your A500, then you could probably use it with both your Mac and your Amiga, but I'm not prepared to stick my neck out and absolutely guarantee it. Perhaps the most comfortable solution would be to get a bigger desk? ***Gary***

A500 hard disk



I've been using Apple Macs, but recently bought a second-hand A500 with the intention of using it for word processing. I'm using Pen Pal, but am very frustrated by the need to install floppy disks every five seconds in order to use some of Pen Pal's facilities. Is there any way for me to attach a hard drive so that the whole Pen Pal package can be used without disk-swapping?

John Moratiel
New Southgate, London

Normally, I wouldn't advise buying a low-capacity hard drive but if you are just interested in running Pen Pal, which only needs about 2Mb of hard drive space, then one of the old 20Mb A590 drives should do the job at a reasonable price. The A590 can be used on A500 and A500 Plus machines and just plugs directly into the left-hand side expansion slot. Silica, incidentally, were recently advertising these at a special offer price (£99). ***Paul***

Imagine to LightWave conversion



I've been a faithful Imagine-user for the last four years, but I've recently bought LightWave 3.5 standalone because I've read so many good reviews of it and seen what it is capable of in Babylon V, Robocop etc.

The trouble is, there are some things that LightWave doesn't seem capable of, which I could do with Imagine, especially things like objects with multiple textures. Is there any way of making several layers of textures on a LightWave object, like there is in Imagine, and why are there only a few algorithmic textures available in LightWave?

I'd also like to export some of my Imagine models to LightWave (I still use Imagine for modelling, at least until I can get to grips with Modeler). I notice that LightWave can load several different object formats but not Imagine ones. Why is this and what do I need to convert Imagine objects to LightWave?

Finally, why are the world axes in LightWave wrong? With Imagine, I got used to

the Z axis being up and down and the Y axis going front to back, but in LightWave these two axes are reversed. It's really annoying, but I suppose I'll get used to it in time.

Jason Dealey
Hitchin

Let's do this one in reverse order, starting with your axes question. Whilst I know it's a pain (I have the same problem flitting from Imagine to LightWave and back) it isn't NewTek who are at fault, but Impulse, the makers of Imagine. Ever since they released Silver way back in the late 80s, that's the way they've kept their axes. Most 3D (and 2D, for that matter) software uses the standard Cartesian system where the Y axis goes up and down, but not those wacky individualists at Impulse, no sir! So if you have to blame someone, blame Impulse.

Whilst LightWave can import quite a few 3D object formats, for some reason Imagine has never been one of them. I presume this was because of a decision made by NewTek, since the object converters were written by Syndesis. Syndesis also make an object conversion program called Interchange, which can convert Imagine objects to LightWave format, along with several other formats not available from LightWave itself.

There's also a program called Pixel 3D (which has been given away on Coverdisks in the past) which can convert Imagine and various other formats, as well as turn 2D bitmaps into 3D objects (something which Interchange can't do). Personally, I find that Interchange does a better job of object conversion, but the bitmap function of Pixel 3D can be very useful. The choice is yours.

Lastly, I know what you mean about the lack of algorithmic textures and texture layering for LightWave! This is one of Imagine's most powerful features and I too would have expected LightWave to at least equal, if not surpass, that power. Whilst Imagine-users have had the ability to select from hundreds of algorithmic textures (if you include Apex Software's fine Essence textures) LightWave has been dragging its feet for several years. But things could be set to change with the release of LightWave 4.

In LightWave 3.5 you've probably noticed a couple of textures called Crust and Disgusting and wondered why such strange names, if nothing else. Well, in case you didn't know, these are ports from Essence included as tasters for the new textures to be provided (hopefully) with LightWave 4.

On the other hand, since NewTek don't seem to be too forthcoming with information, they may only be available as third party "Plug And Play" modules which will have to be bought separately from LightWave itself.

Whatever, it looks like the next release of LightWave will have lots more scope for algorithmic textures, though whether we'll be able to layer them together, like we can in Imagine, remains to be seen.

There is a rough and ready solution to multiple texturing in LightWave, though it isn't as elegant as using algorithmic textures directly. To complement the Essence textures (available from Emerald Creative in the UK) Apex released a program called Forge, which lets textures be manipulated, layered and finally rendered out as bitmaps, so that the resulting image can be mapped on to an object. Not as straightforward as just slapping on a couple of textures, but it gets the job done. ***Gary***

Blittersoft emplant

Hardware

I own an Amiga 4000/EC030 with 2Mb chip RAM and 4Mb Fast RAM and a 130Mb drive. I'm interested in buying a PC emulator. The Blittersoft Emplant with the 586PC option is a possibility, but what would I require to successfully run PC business software and PC games on my Amiga?

Would there be any problems reading, writing, or printing data and can you foresee any other difficulties that might arise?

Keith Hanmer
Braintree, Essex

The Emplant 586DX emulation module is very new and, at the time of writing, I've not found anyone who has seen Microsoft Windows running via an Emplant board/586, let alone seen any major applications (Word for Windows etc.) being used.

Knowing how memory-hungry PC software is, I must admit that I'm more than a little pessimistic about how this Amiga-hardware/PC-software combination is going to work.

My advice is: wait until you see some authoritative reviews before going down this road and then, if you are still keen on following the Emplant option, insist on seeing the software/hardware you want to run actually installed and running on your machine. ***Paul***

Expanding the Epson GQ laser

Printers

Where can I get hold of toner, memory expansion cards and font cartridges for the Epson CG3500 laser?

Andrew Barron
High Wycombe

Try Micro Partners (☎ 0181 900 2770). ***Larry***

A500 Plus accelerators

Hardware

Is there any way I can speed up my slow WB2.1 A500 Plus? Most accelerators advertised seem to be for A1200 only.

William Tomlin
Basingstoke, Hampshire

You can get accelerators for the A500/A500 Plus. First Computer Centre, for example, stock the Supra 28, Power Computing do a 68020 board and so on.

What I'd do in your case, however, is take advantage of the few users who are panic-selling their Amigas because of the former Commodore situation and make a swift move to a faster second-hand A1200 regardless.

In recent months, I heard of several people picking these machines up for absolutely silly

money (couple of hundred quid) and, of course, you'd pay almost that for your A500 Plus accelerator board. ***Paul***

Printer connection problems



I have a Canon BJ-10ex printer which I use with my A500 Plus. When I bought the Football Glory game, I found it kept crashing. I contacted the importers of the game, who suggested that I disconnect the printer as the game was memory-hungry.

I have since got the game going after getting further advice. However, the printer did not work when I re-connected it. I have tried using Protext, Wordworth and Interword on my Amiga. The computer does not seem to recognise that there is a printer there. I have tried different cables, but it still fails to respond.

It will do a test print successfully and it will also print from the Compaq using Rapidfile. I have tried a Hewlett-Packard DeskJet printer on the Amiga and it works fine. I have contacted the Canon helpline, who were convinced that it was software failure and sent me an up to date printer driver for the Amiga. Still no joy.

Any ideas as to how I can get my Canon printer to work with my Amiga again?

Malcolm Hoadley
Peterborough

I contacted Canon UK and put your problem to them. Without knowing what this "further advice" you mentioned is and what you've done to your system to get your game to run, it's impossible to accurately predict what the problem is. Looking at it logically, if the PC and the Amiga won't recognise it, then the problem may well be with the connection on the printer.

There is one test you can try that avoids software and that is to copy an ASCII text file to the printer without going through any printer driver. To do this, run a Shell and copy a file that you know to be plain ASCII to the device, 'Par:'. The syntax for this is:

```
Copy FROM RAM:TextFile TO Par:.
```

Your printer, if it's okay, should print this text. If it doesn't do anything, then you do have a connection problem, more than likely on the printer, in which case have the printer looked at by an authorised Canon repair dealer. **Larry**

Catching the DTP bug



I have just started exploring the art of desktop publishing and need some advice. I have an Amiga 500 Plus with 10Mb of memory and GVP hard drive/accelerator.

I produce material for my local school and am so bitten by the bug, that I want some help to give me the training I need to produce professional-looking results using my Amiga.

Most of the work is black-and-white, but I'd also like to produce some colour material.

I have been buying Amiga Shopper for a few years now and hope that the tutorials you used to have are returned. I also want to make it known that I think the design of the new Amiga Shopper is excellent and a good example for us desktop publishers. Enough of the background material, now the questions.

1. Since there have been no new Amigas released, I have managed to save some money to upgrade my machine. Is it worth sticking to the Amiga, or should I now buy a PC?

2. Are there any practical books on DTP that can help me?

3. I am considering PageStream, but I'm not sure after all the reviews I've seen whether it's worth the money. I currently use PageSetter 3.

4. At the moment I have a DeskJet 500C and would like to upgrade to a laser to produce better quality documents. Which one would you recommend?

My friend has a LaserJet 4P which I used to print this letter with and I was wondering what you thought about it compared to the others you must see. Your help in these matters would be most appreciated.

Sharon Adams
Stevenage

Glad to see I'm not the only one who's caught the dreaded DTP bug. As for tutorials in Amiga Shopper, like you, I too enjoyed them and I'm sure the editor will do her best to see DTP tutorials return for those of you who dabble in publishing. Now for your questions.

1. *As I write this, there is still no news on what's happening with Commodore, so advising you about a new Amiga to buy is a tad difficult. The Amiga is a fine computer for DTP, but the one most suited to it is the Apple Macintosh.*

I recently wrote and laid out on an Amiga, a book called the Wordworth Companion (Future Publishing) and everything went fine until the PostScript files went to the bureau. Not that there was anything wrong with the PostScript files, since they printed fine on both my PostScript lasers, but the bureau were decidedly edgy about them because of from whence they came... from an Amiga, in other words.

Had I given them QuarkXPress files from my Mac, everything would have been okay, but QuarkXPress is such a pig to use compared to ProPage, that I stuck to the Amiga. The moral is, if you intend doing anything on a professional scale, such as full-colour DTP, then the Mac is still the best platform because it's supported by the DTP industry. You can do it on the Amiga, but you'll be swimming against the tide.

If, however, everything you produce is being printed at home on a desktop laser, then try and get an Amiga 1200 or 4000. It's a much more user-friendly computer than either the PC or Macintosh and, in my own experience, despite having three types of computer in the office here, I still prefer the Amiga and I'm not just saying that for your benefit.

2. *There are lots of books you can get to help you. Take a trip to your local specialist book store, the one with academic books as well as all the popular ones, and see what they have in stock.*

I can recommend a few such as How to Design Grids by Alan Swann (ISBN 0-7148-2599-9) and Basic Design And Layout by Alan Swann (ISBN 0-7148-2487-9).

I've also written a book called Amiga DTP (ISBN 1-899065-0302) that covers a lot of subjects that are specific to the Amiga and as one reader said to me recently, "I've learnt more in six days than I've learnt in six years". For more info, give me a call on ☎ 01908 370230.

3. *PageStream 3, when it's finished, will be good value. Progress is slow and I don't expect it to be fully finished for a year or so, going on how long it took for them to get PageStream 2.2 right. There are other programs available now that will do what you want.*

I recently rang Gold Disk in the States and found they still have a few copies of Professional Page, a program I use to produce my DTP magazine Em and all the books I've written this year. ProPage is not perfect, but it's in a lot better state than PageStream 3 and, because you are using PageSetter 3, it won't take long for you to get used to it. If you have difficulty getting a copy, give me a call on the number listed above.

4. *For good quality black-and-white work, I would definitely recommend a 600 dpi laser, like the Hewlett-Packard 4P. However, that particular model has been superseded by the 5P. I haven't had the pleasure yet, but if it's as good as the 4P, then it will definitely be worth a good look.*

Another one to check out is the Epson EPL-5600, which is a superb 600 dpi printer that I've tested for a number of months and found to be a great workhorse. My favourite laser though is the LaserJet 4M Plus. I have had one for almost a year and in that time, it's produced almost a hundred thousand copies without a hiccup.

The quality is also very good because it uses Enhanced Halftoning which produces good quality greyscale images. Not a cheap printer at around £1,200, but for rugged use, it's well recommended. Just make sure you get a PostScript model, since I've had less problems with them and you'll find most pages will print far quicker than printing through Printer Preferences. ***Larry***

Old fonts

I have a problem understanding how to use the fonts on the May '93 Amiga Shopper Coverdisk. I have tried to follow the directions in both the magazine and the Workbench 3 Users guide and, so far, I've managed to de-archive them and get them on to the fonts disks along with their corresponding files. So far, so good.

Then, I used Fixfonts. Next, I think I'm supposed to use Intellifonts. The manual doesn't make it clear to me what Intellifonts is for. I run the program, expecting to see a nice list of fonts, but there's nothing in either of the boxes.

With quizzical frown, I check "Show All" files and the new fonts are iconed, along with their files. So how come I can't use them in the likes of Pen Pal and Wordworth?

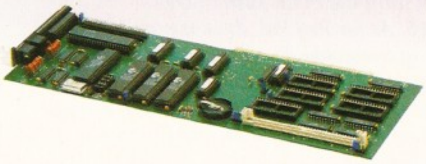
Jim Richards
Woking

Having written a book called Fonts And Clip Art about using fonts on the Amiga, I understand your frustration. I gather you have a floppy-disk-

EMPLANT

E586DXSM Emulation Module

The new E586DX emulation module offers a high speed 586DX (FPU, MMU, and new instruction set) emulation with complete low-level architecture support, giving you the ability to run DOS, OS/2, NT, Windows 3.x, and even Chicago! There is support for MDA, CGA, EGA, VGA, SVGA video modes (dependant on hardware, AGA or a supported graphics card is required for VGA/SVGA) , sound, joysticks, floppy drives, hard drives, extended memory, and more! Requires PC BIOS, not supplied.



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The possibilities with a multi-platform machine are endless. Now you can take advantage of a whole host of great software previously unavailable, and use them to compliment each other. By upgrading your Amiga (extra memory, faster processor, etc) you instantly upgrade your emulation too! All major graphics cards are supported for improved video performance such as: CyberGraphics, Picasso II, EGS-Spectrum, Vivid-24, Rainbow II, Rainbow III, Visiona Paint, Merlin, Retina, Retina Z3, Piccolo, PiccoloSD64, EGS110/24, and OpalVision!

Blittersoft are the exclusive European distributors for Utilities Unlimited, providing full technical support/upgrade/warranty services All emulations require a 68020 or better.

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Blittersoft deliver the fastest 68040 accelerator ever for the Amiga 4000/040, setting a new breakthrough in price and performance. The new Doubler 4000 50 MHz 68040 accelerator delivers across-the-board speed increases for all applications and system functions, translating into a significant productivity gain.

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The Doubler 4000 accelerator is an easy-to-install daughter board that simply replaces the 25 MHz 68040 CPU socket on the Commodore Amiga 3640 board. Anyone who can install a SIMM can install the Doubler 4000. Customers are supplied with photo-illustrated installation instructions plus the necessary extraction tool to perform the installation.

Simply putting a faster processor into an Amiga does not help much unless the system can supply enough data to keep it busy. That is why the Motorola 68040 contains a large on-chip cache. This cache frees the Doubler 4000 to work semi-independently of the Amiga memory subsystem. In fact, 85% of the time the cache contains the data and instructions necessary for the Doubler 4000 to operate at full speed.

The Doubler 4000 includes an on-chip math co-processor, and will dramatically speed up any application - such as rendering - that depends on calculations. It is completely reliable and system safe. An integral cooling system ensures that the Doubler 4000 runs cooler and more reliably at 50 MHz than the original processor.

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DHRYSTONES	-	A4000/40	: 17,973	DOUBLER 4000 :	36,126
CPU MIPS	-	A4000/40	: 18.76	DOUBLER 4000 :	37.72
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OS 3.1



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* Please specify machine. Note that revision 3-5 motherboards require linking to be added. We strongly recommend that a professional computer repair/service company undertake fitting. We cannot exchange any damaged or incorrectly fitted components.

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only system. There are a couple of steps involved and I'll take you through them.

1. *De-archive the CGFonts on the Coverdisk on to a blank disk. The files should have the filename extensions ".lib, .dat and .metric". A filename extension is a suffix on the end of a file. If, for example, you had a font called Bauhaus, the three files would be Bauhaus.lib, Bauhaus.metric and Bauhaus.dat. Next, make copies of the Workbench 3 and the Amiga Fonts disks.*

2. *Run your Amiga with the copy of the Workbench 3 disk. Make sure there is about 70K of free disk space before you do. If not, delete some unwanted files like Ed, Edit, Diskchange Search and the generic printer driver.*

3. *Place a copy of the Amiga Extras disk in your external drive. Open the System drawer and you will see a file called Intellifont. Copy this file to the System directory on your Workbench 3 disk (not the original disk, please).*

4. *Now place in the external drive the blank disk with all your CGFonts from the Amiga Shopper Coverdisk.*

5. *Copy these fonts into RAM:*

6. *Remove the disk from the External drive and replace it with a disk called Fonts. This will be the copy of the disk called Amiga Fonts. The disk label says Amiga Fonts, but the disk name on Workbench is Fonts.*

7. *With the Workbench disk still in the internal drive, run Intellifont.*

8. *On the left-hand side of the window is the label "Outline Font Source". In this case, it's going to be RAM:, so click on the disk icon next to the label "Outline Font Source". Click volumes, choose RAM: and click Okay. Your fonts should appear in the Window below "Outline Font Source". Click once on each font and a little cross should appear next to each name.*

9. *On the right-hand side of the window is the label, "Destination Font Drawer". Click on the little icon to the left of the label "Destination Font Drawer" and choose the volume "Fonts" as the disk where you want the fonts installed.*

10. *Now click on the "Install Marked Typefaces" button. Your fonts will be installed on the disk called Fonts.*

The reason I chose a new disk is because the Workbench disk is very full and you won't get a lot on there, even if you delete a few unimportant files.

11. *Once the fonts are installed, you need to create some bitmap versions of these typefaces. Click on "Modify Existing Typefaces" and another panel will appear.*

12. *Select a font by clicking on it and then a size of bitmap to be created. Then click "Create Bitmap".*

13. *When all the fonts and bitmap sizes have been chosen, click on "Perform Changes".*

14. *This disk is now your fonts drawer and the fonts on it can be used by many programs. Simply boot with your Workbench disk making sure you place the Fonts disk in your external drive.*

15. *If you were using DPaint for example, you could place on the fonts disk the DPaint fonts and then run your Amiga with the Workbench disk in DF0 and the fonts disk in the external drive (DF1). Once Workbench appears, insert a disk with DPaint on it and run the program. There will a disk swap since DPaint accesses a library or two, but the fonts will all be taken from the Fonts disk in DF1.*

16. *As for Pen Pal, there is a problem you need to overcome if you are using the original Pen Pal disks. The program disk has a diskfont.library from Workbench 1.3.2 and it needs to be upgraded to the version for Workbench 3.*

This is easily done by renaming the old diskfont.library on a copy of the original Pen Pal disk and then copying the Workbench 3 diskfont.library to the Libs directory on the Pen Pal program disk (copy of).

17. *Now grab a blank disk and create a drawer called PenPalFonts. Copy into that directory any bitmap fonts you have including those created from the CGFonts on the Amiga Shopper Coverdisk.*

18. *Run Pen Pal and close the file that is open. Choose from the File menu the item "Change Font List". Use the file requester to point Pen Pal towards the disk with the drawer called PenPalFonts. Double-click on the drawer called PenPalFonts and Pen Pal will update its Font List. This can be saved as the default when you exit the program.*

Knowing this, you can create bitmap fonts from the Compugraphic versions available in the Public Domain and use these with Pen Pal. I've not mentioned Wordworth since you haven't said what version you are using. ***Larry*** ■

Fill in and get answers to your questions — AS**51**

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Send your form and question to: Amiga Answers, Amiga Shopper, 30 Monmouth Street, Bath, Avon BA1 2BW.

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Your machine:

☐ **A500** ☐ **A500 Plus** ☐ **A600** ☐ **A1000**
☐ **A1200** ☐ **A1500** ☐ **A2000** ☐ **A3000**
☐ **A4000**

Approximate age of machine: ______

Kickstart version (displayed at the "insert Workbench" prompt)

☐ **1.2** ☐ **1.3** ☐ **2.x** ☐ **3.x**

Workbench revision (written on the Workbench disk)

☐ **1.2** ☐ **1.3** ☐ **1.3.2** ☐ **2.04/2.05**
☐ **2.1** ☐ **3.0**

PCB revision (if known). Do not take your machine apart just to look for this! ______

Total memory fitted (see AVAIL in Shell for Workbench 1.3) ______

Chip memory available (see AVAIL in Shell) ______

Agnus chip (if known) ______

Extra drive #1 (3.5in/5.25in) as DF : Manufacturer ______

Extra drive #2 (3.5in/5.25in) as DF : Manufacturer ______

Hard disk: ______**Mb as DH** ______**: Manufacturer**

______

Extra RAM fitted – type, size in Mb and manufacturer ______

Please indicate details of any other hardware which could help us to answer your question:

______

Now, use this space to describe your problem, including as much relevant information as possible. Please continue on a separate sheet if necessary.

______

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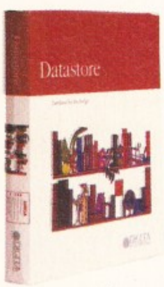
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Description	Turbotech Clock Cartridge
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AS price	£17.99
Order code	AMFCLO



Datastore

Datastore is a revolutionary database which is accessible, sophisticated and powerful, yet easy to use. The number of records is limited only by the amount of RAM you have available (at least 1Mb with WB2 or 3). Easystart templates that accompany the package include Club Membership, Recipes, Address Book and a complete up-to-date Amiga Format magazine guide. The Amiga Shopper magazine guide, on the March AS47 Coverdisk, has been designed to be used with this ground-breaking release.

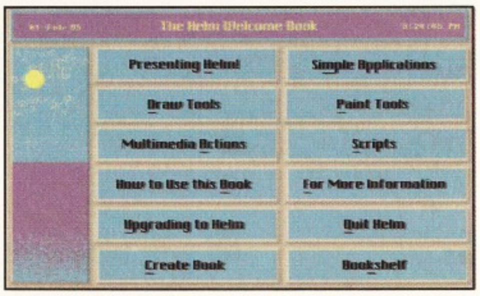
Description	Datastore
AS price	£49.99
Order code	AFDAST

Mouse 'n' Mat



At last! A quality replacement-mouse at a bargain price, complete with mouse mat. The 260dpi resolution mouse is 100% Amiga- (and Atari ST-) compatible and both buttons are fully micro-switched for maximum reliability and performance.

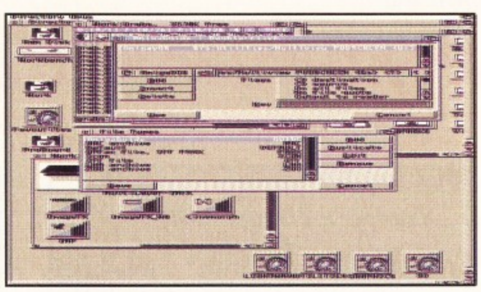
Description	Mouse 'n' Mat
AS price	£12.99
Order code	AFMM



Helm

A true multimedia authoring system for the Amiga, Helm earned 91 per cent when reviewed by our Consultant Editor Nick Veitch in Amiga Format. Create custom image editors, personal information managers, presentations, kiosks, free form databases, or educational courseware. Helm is both an authoring system and a graphics program, combining draw, paint and image processing tools with a scripting language, a hypermedia database manager and an assortment of user Interface objects.

Description	Helm
AS price	£99.95
Order code	AMF503



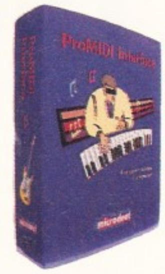
Directory Opus 5

This latest incarnation of the superbly powerful and well designed file manager received 92 per cent and an Amiga Shopper Star buy award in this very issue (see page 36). Directory Opus 4 was brilliant and version 5 is no exception. Now this excellent program can be yours for £10 less than the RRP of £59.99.

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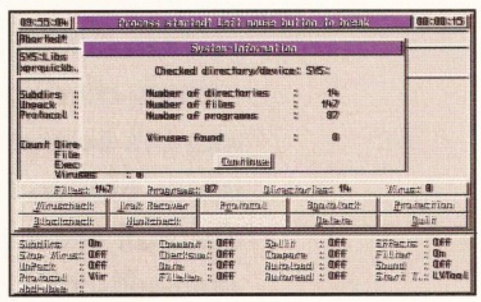
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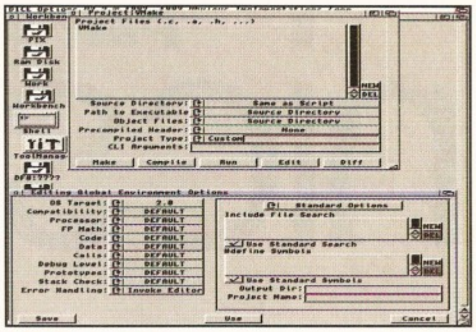
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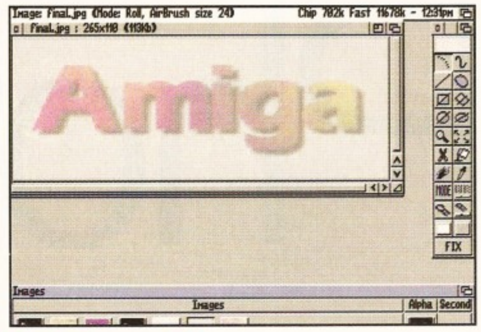


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Photogenics

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Photogenics

Part 4

Graeme Sandiford *expands on last month's introduction to Photogenics' excellent filter effects.*

"You may have to **experiment** a little with the settings to get the look you want."

Hello and welcome to the second of our two-part tutorial on Photogenics' excellent filters, otherwise known as paint modes. After last issue's slightly over-crowded tutorial, we're going to slow things down a bit as we are only going to create a single, final image. This will be a simple glass shape placed on a textured surface. To create the illusion of coloured glass, we'll be using a mixture of the balance and displace modes.

The first thing we are going to do is create a background for our piece of coloured glass to rest on – after all, it would be hard to give the impression of translucency without something to show through.

The background can be of pretty much anything you want, but since we will be creating a diffraction effect it's best to have a fairly regular and simple pattern. The wooden texture from last month will do.

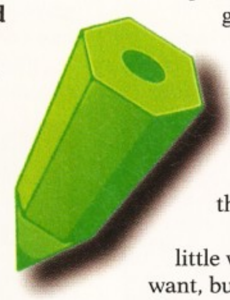
Next, we need to draw a simple shape for our glass piece. This can be anything from a simple circle, to something very complicated if you're feeling a little more adventurous. However, the shape must be drawn on a black background with white paint.

Right, now we've drawn our shape, give it a blur to soften its edges – a 5x5 Gaussian blur will do nicely.

Next, clone the image and move this clone to the alpha channel since it's to act as a stencil for our next few steps. The next step is to apply the emboss mode to the original shape.

Now, move the embossed image to the secondary buffer. Keep the alpha channel where it is and go back to your background and apply the displacemap mode.

This should be set to a value of about 10 to 20 on both axes and will serve to simulate the refractive quality of glass by moving a limited number of pixels.



Right, now I'm sure you'll agree that the glass is just a tad too translucent. To remedy this, we're going to add a little colour.

We'll achieve this by using the balance mode to shift the RGB values of the pixels under the influence of the white areas of the alpha channel.

You may have to experiment a little with the settings to get the look you want, but remember to use negative values and to keep the colour you want your glass to be at a higher value.

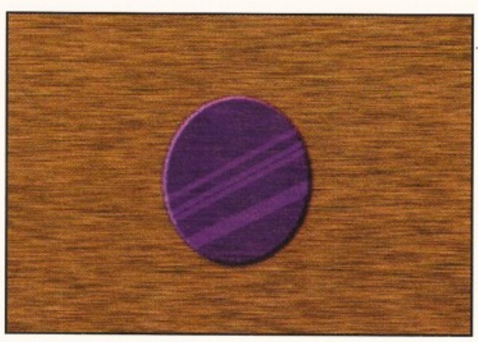
There you have it – what do you mean it doesn't look like glass? Ah, I've forgotten to add the highlights to the glass.

Fortunately, the secondary image will do nicely to highlight the glass' edges. Apply the brightmap to your image and, voilá, coloured glass.

Don't forget to experiment with the settings and do drop me a line if you come up with something weird and wonderful. Please join us next month as we take a look at image composition. Until then! ■



Yep, I know it's a funny shaped heart, but it is just an example of an alternative.



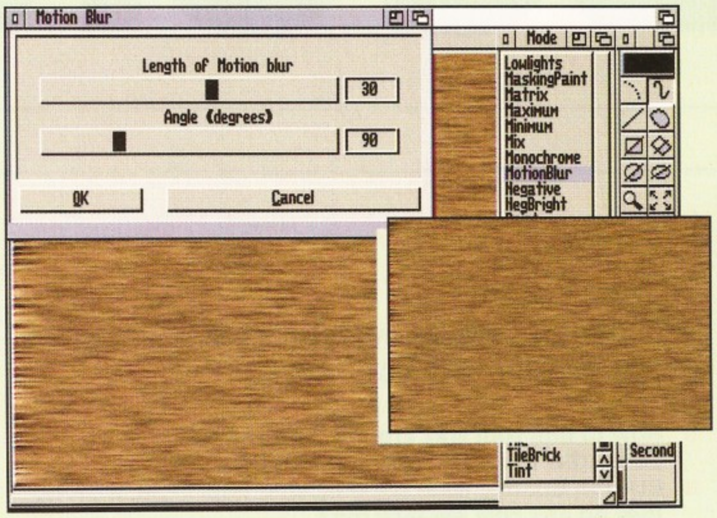
Voilá – coloured glass. Drop us a line if you come up with something equally weird and wonderful.

Even more tutorials

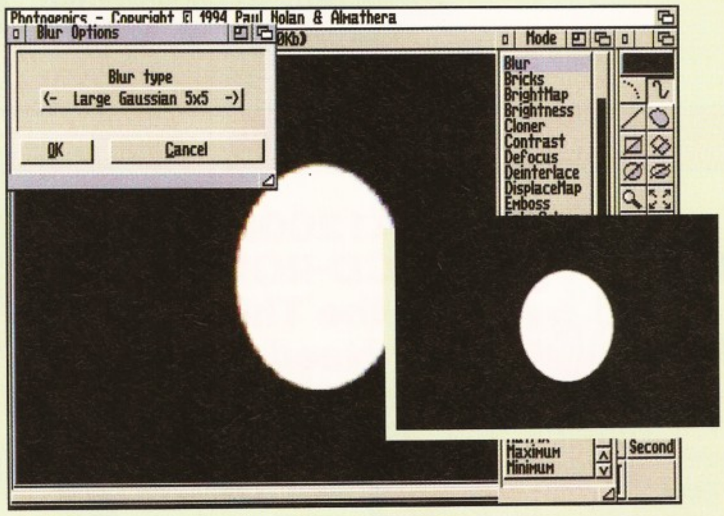
This is the fourth of seven tutorials where we'll be covering most of Photogenics' features. Some of the techniques that we will discuss in the tutorials listed below are equally applicable to other similar packages.

1. **Alpha channels**
2. **Text effects**
3. **Filter effects (part 1)**
4. **Filter effects (part 2)**
5. **Image composition**
6. **Image retouching**
7. **Drawing techniques**

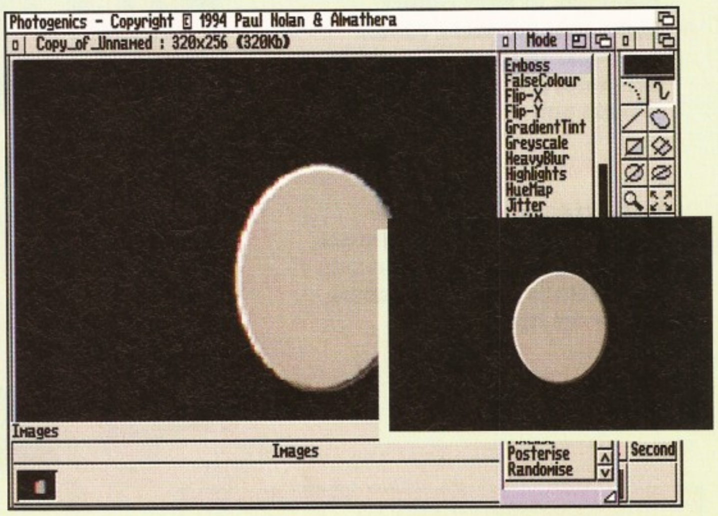
Creating a glass shape placed on a textured surface



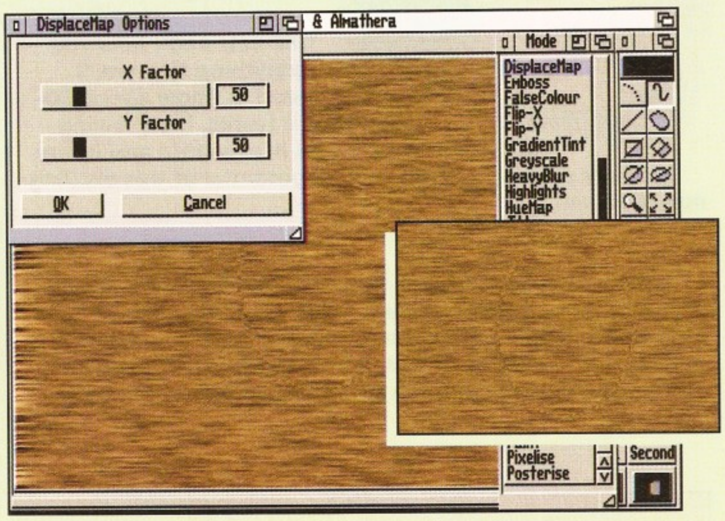
1 *First create a background to show through the glass shape we're going to make. The wood texture from last month will do.*



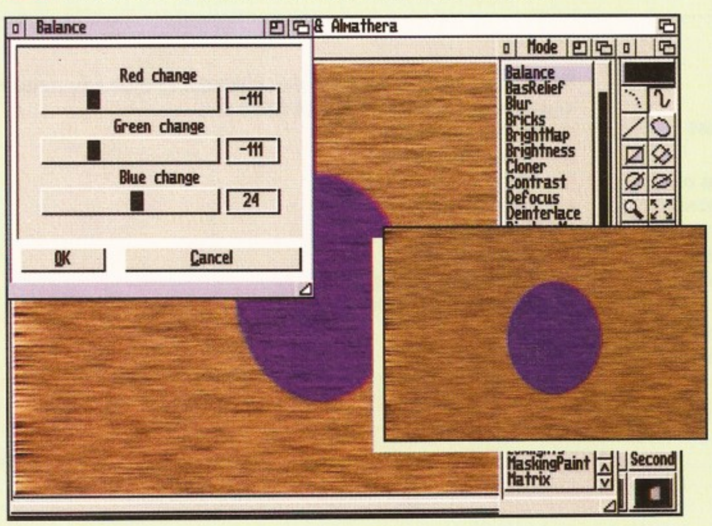
2 *Next, create a simple shape – an oval will do. Make sure the background is black and the paint white. Apply the blur mode.*



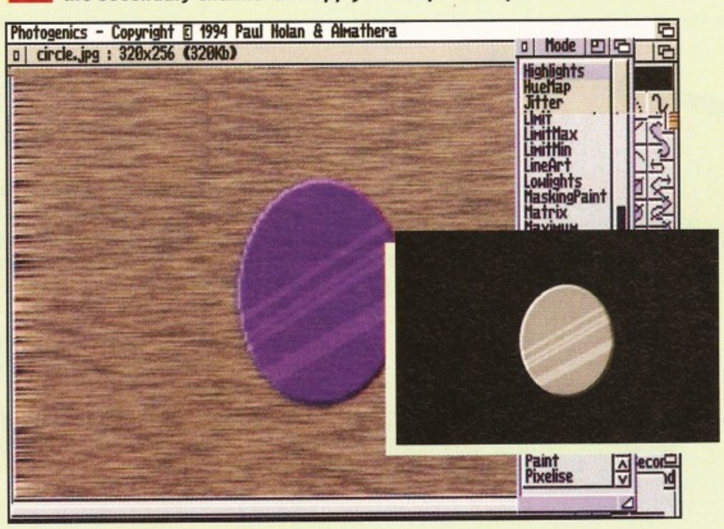
3 *To give the shape some depth, we are going to emboss it. Be sure to clone the image and copy it to the alpha channel first.*



4 *In order to create a refraction effect, copy the embossed image to the secondary channel and apply the displacemap mode.*



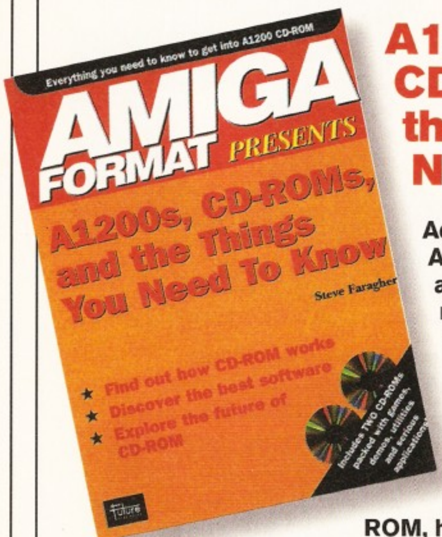
5 *Now we are going to give the glass some colour by using the balance mode – negative values work best.*



6 *To give the glass added definition, use the brightmap mode. This will also make the shape appear more solid.*

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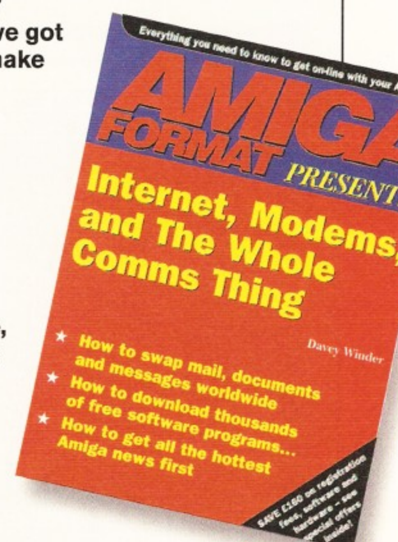
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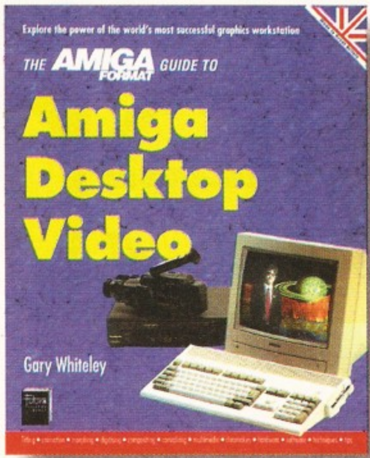
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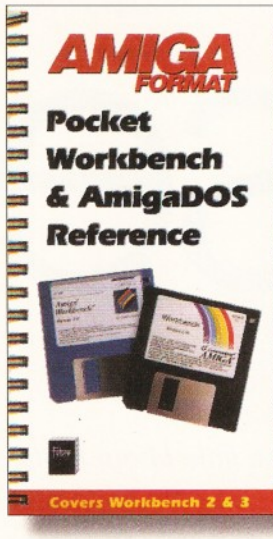
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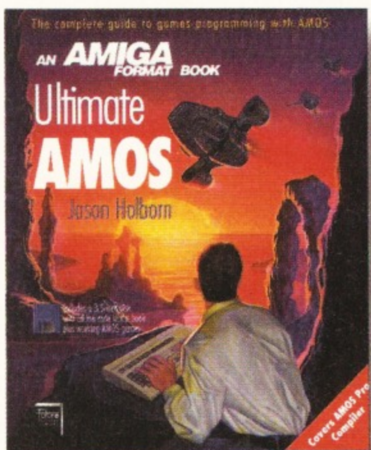
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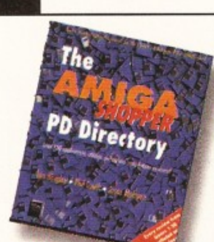
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ASHP507

Assembler Part 10

This month **Toby Simpson** *talks a little about fonts, shows you how to easily add new functionality to your Assembler application and emphasises the importance of neat, well documented and structured code.*

For the past few months, we've introduced Assembly language with the use of our very own handy application – a lottery number guesser. No-one has made a million yet, so it's almost time to move on. We'll be using it this month to make a couple of improvements and introduce a few GUI-related things at the same time.

As always, the listing and a runable application are available on this month's Coverdisk 2. Next time around, we'll come to the nail-biting bit that so many of you have been asking for in Amiga Shopper over the years: programming the Amiga graphics chips directly, whilst not upsetting the OS too much.

We enjoyed some font-related problems last time. The issue was that we were not checking the size of the font which the user had chosen, so should their font be sufficiently large, the text would spill over the right-hand side of the window. Our solution, which stunk badly of shortcuts being taken, was to make the window much larger than it would otherwise have to be. There are two ways around this.

1. Check the size of the font in use. In order to do this we have to ask the Operating System which screen we have opened on (usually the Workbench screen, but with Kickstart 2 you can have other screens and force windows to open on them – these are public screens) and then get some information about it. We would have to do this before opening our window so that we could calculate the correct window size.

2. Set the font to something and draw with that. This way we know the *exact* size of the font and can open an appropriately sized window. The only catch with this one is that it is user-unfriendly in that it doesn't get the font of choice, but one you have chosen yourself. For certain displays it can be useful, and necessary to pick the font size.



Which solution you would pick in your own applications depends on what you are doing. The second option is by far the easiest to program, so, not surprisingly, this is the one we will select. Also, in our case, it is the most appropriate since it will give a neat window with lottery numbers in a fixed font inside it.

To make life even simpler, we can use the built-in Topaz font. This is known to come with every Amiga since the dawn of mankind, so it is a safe bet. Making the PrintIText function we're using to show text with our choice of font is a very easy thing to do.

Inside the IntuiText structure is an optional pointer to something called a TextAttr structure. TextAttr structures consist of four simple entries. This is our TextAttr structure for the font we are using...

```
WindowTextFont:
    dc.l
    wtf_Name
          dc.w
    FONT_HEIGHT
    ; Height of font
          dc.b
    0
          ; Font style (Bold, Italics etc...)
          dc.b
    0
          ; Font Flags
;
wtf_Name:
    dc.b
    "topaz.font",0
    ; Font name
```

It involves a pointer to a string which contains the font name – in our case, "topaz.font". You could specify any font here. The font height then has to be specified. We are using an equate, rather than a fixed number, because it makes changes much easier in the future and

Jargon busting

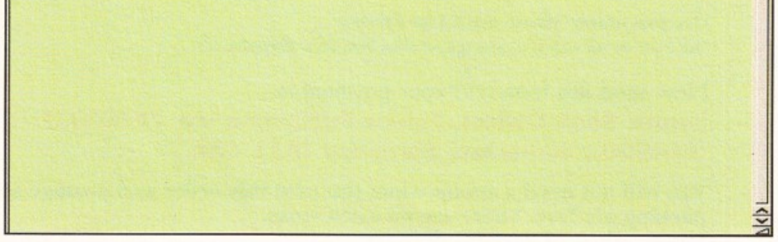
ASCII – American Standard Code of Information Interchange. This is a simple code which gives each character (letters, numbers and punctuation) an individual code from 0 to 127. This conveniently fits in one byte of memory.

The Amiga has extended codes after 127 which run up to 255, including Greek symbols, special characters (such as French and German characters) and symbols. The ASCII code for a capital A is 65.

GUI – Graphic User Interface. This is the Interface through which a user will use your application. This makes up the buttons, menus, key-presses, how it all looks and how it all works.

Putting together a neat, efficient and practical GUI is a hard job, but very important. Long, tedious books have been written on the subject, but as everyone's taste is different, do your best to follow suggested style-guidelines as best as possible and use a little common sense.

A book on these issues especially for the Amiga is available from Addison Wesley, called "Amiga User Interface Style Guide". It costs around £25 and may still be available off the shelf in larger bookshops.



An unforeseen bug in the program. I forgot that PrintIText doesn't clear the window underneath the text it is drawing, so multiple lottery guesses result in a bit of a mess.

several other calculations require the font height to work. Hard-wiring code to use fixed height fonts, or anything like that, is bad news. It restricts your options in the future. Finally, the fonts' flags and styles can be specified. Styles include things like bold and italics.

Now that we have this, we can simply point to it directly from our IntuiText structure. The entry is right above the one which points to the text we're showing. We simply change this from...

```
dc.l
0
; No font
```

...to:

```
dc.l
WindowTextFont
; Pointer to font we wish to use.
```

Intuition then does the rest of the magic for us.

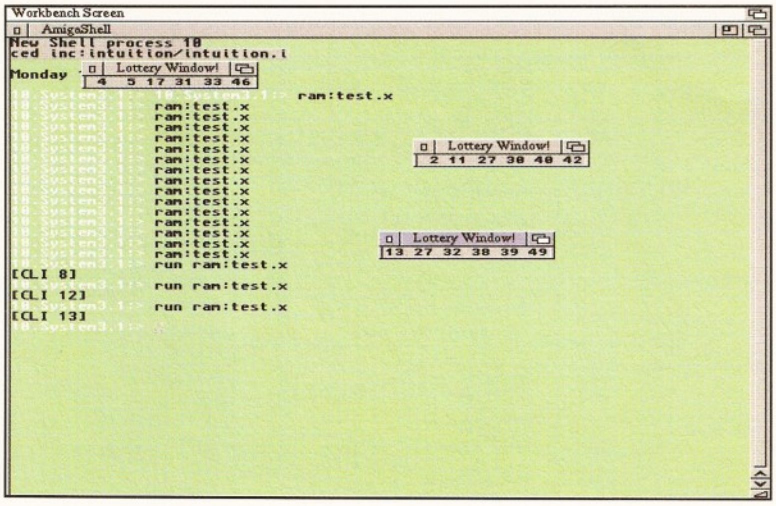
We're not completely out of the wood-pile yet, though, as we still need to specify to Intuition where inside the window to show the text. Because we don't know the *height* of the title-bar, we have to find it out. When you open a window, the widths and heights of the borders are stored in the Window structure. These can easily be read out. For example, this is now how we call PrintIText:

```
        move.l    WindowPtr,a0
;
; ---- Work out X/Y position of text ....
        moveq     #$00,d0
        move.b    wd_BorderLeft(a0),d0
; Window border width: Left
        addq.w    #ADJUST_LEFT,d0
; Add adjuster to give X pixels
        moveq     #$00,d1
        move.b    wd_BorderTop(a0),d1
; Window border height: Top
        addq.w    #ADJUST_TOP,d1
; Add adjuster in to give Y pixels
;
; ---- Now show at this position ....
        lea       WindowText(pc),a1
  ; Filled in intuitext structure
        move.l    wd_RPort(a0),a0
; Rast-port
        INT       PrintIText
```

We've had to re-organise it to make it work, but it should be clear enough. With the pointer to our Window structure held in the A0 register, we can read specific information out of the structure using offset values.

Fortunately, all of these offsets are defined in the include file "Intuition/Intuition.i". In order to get the Y position (the pixel at the top of the text shown) we read the value of the top border (which conveniently contains the title-bar) and add an adjuster to it to put a space between the window border and the text itself. There are many more useful values inside the Window structure; it is worth having a browse through its include file. It makes unexciting, but interesting, bedtime-reading.

We have a couple of other window problems to adjust too. In previous incarnations of the lottery program, we have put a sizing gadget on the window. This is obsolete, because we are opening a fixed-size window. Removing this involves removing the



The finished article in action – several times for added luck.

A comment on comments

I'm known never to miss an opportunity to preach to people about writing neat, self-documenting source code. If you've been following this series, then you'll have endured constant reminders to comment things, use sensible label names and organise stuff neatly, even if it requires extra work. As we've seen, adding new functionality is a doddle if the program is well organised.

Documentation is vital, particularly in Assembly language, and by documentation I don't mean reams of paper, since nobody can be bothered with that (although they ought to be) – I mean useful comments. Label names which bear some resemblance to what the routine is doing. (Loop234, for example, is appaling).

As with all documentation, it has to be kept up to date so that it makes sense. In my time I've seen 30,000-line Assembly language programs with no comments at all. Making head or tail of something like this can take months.

Tune in next month for another patronising lecture on hardware register bashing!

"WA_SizeGadget, TRUE" from the window structure, or changing the TRUE to FALSE.

The other thing is that if we don't know the size of the borders before we open the window, how do we know there is going to be enough space to show our lottery numbers? Well, we don't. So, instead, we side-step the problem. The Intuition.library thoughtfully provides us with a facility to specify what the *inner* width and height of the window are going to be.

Since we know that a lottery guess can consist of a maximum of six two-digit guesses, with a space between them, we have 17 characters in total. (We don't count the space at the end after the sixth digit.) 17 characters, 8 pixels wide is 140 pixels. Height is also easy to calculate – one line of text is 8 pixels (we would use our FONT_HEIGHT equate, though) and we'll want a couple of pixels above and below for neatness.

We delete the WA_Width and WA_Height tags from our window tag-list and change them to:

```
WindowTags:          dc.l
WA_InnerWidth,WINDOW_WIDTH
          dc.l
WA_InnerHeight,FONT_HEIGHT+3
```

We calculate window width exactly as described above and use an equate for it, so that it can be easily changed:

```
FONT_HEIGHT:         equ       8
   ; Height of font we're using
FONT_WIDTH:          equ       8
   ; Width of each character
WINDOW_WIDTH:        equ       (FONT_WIDTH*3)-1
; Window width
```

That has certainly sorted out the font issues. Last month, I suggested we would add a button which will give us another guess. True to my promises, we'll do this, but not by adding a gadget.



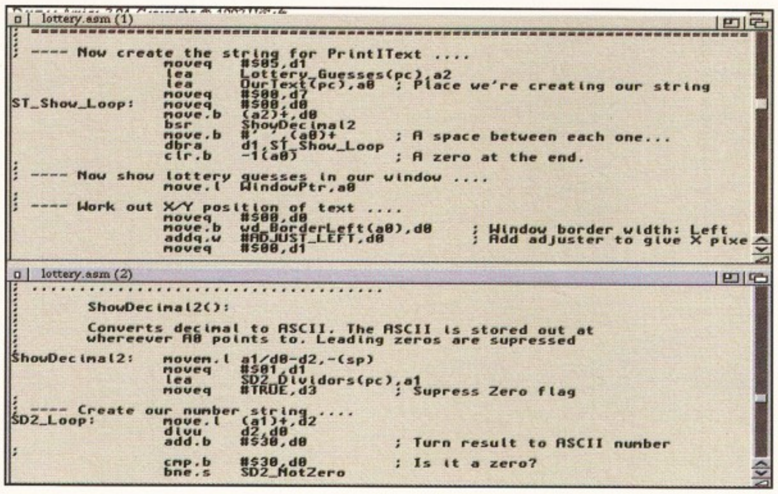
GUI issues are best programmed in C, as I'm fond of saying, but sometimes it can be a valid choice to implement them in Assembly language. The quality of the Interface a user sees on your application is the most important thing. It must be intuitive, efficient, powerful and neat.

It is such an important issue that we'll deal with it *especially,* after we've looked at the Amiga's custom chip registers in a few months. In the meanwhile, I get to find an easier way of doing this. The solution is to allow the space bar to give another guess.

Keyboard input inside windows

This issue is a very common problem amongst beginner programs. It is also, fortunately, one of the easier ones to solve. Intuition does all of the work for us – all we need to do is ask for the information to be passed to our program through a new IDCMP flag and nice ASCII codes will arrive.

The first stage is to ask for the messages to be sent. There are two kinds of keyboard messages: IDCMP_VANILLAKEY and IDCMP_RAWKEY. IDCMP_VANILLAKEY is for processed ASCII codes, which cover



Modifying the ShowDecimal routine to tidy up the display problems.

most of the keys you can press. RAWKEY is for the others, such as HELP and the arrows. You only get keyboard messages if your window is active.

Our window isn't currently active, unless you click inside it, which we can fix by adding another tag to the OpenWindowTags tag-list:

```
        dc.l      WA_Activate, TRUE
```

Since both of the keys we're interested in – SPACE bar for another guess and ESCape for quit – are available as vanilla messages, this is the one we specify:

```
        dc.l
WA_IDCMP,IDCMP_CLOSEWINDOW+IDCMP_VANILLAKEY
```

Now, when our window is selected and the user presses a key, we will get a message telling us so. Since we sensibly built in expansion into our event loop, adding keyboard processing is a matter of two lines:

```
        cmp.l      #IDCMP_VANILLAKEY,d0
        beq.s      ST_KeyPress
    ; A key was pressed
```

These go either before or after the check for IDCMP_CLOSEWINDOW. Now, if we get a VANILLAKEY message, we jump to ST_KeyPress. Detecting which key was pressed is simplicity itself since Intuition places the ASCII code into the im_Code field of the IntuiMessage. In the same way, we read the class out, we can now fetch the key pressed:

```
ST_KeyPress:        move.w    im_Code(a1),d0
        cmp.b      #" ",d0
        ; Was it a space?
        beq.s      ST_Space
    ; Yes - process it!
        cmp.b      #27,d0
        ; Was it the ESC key?
        beq.s      ST_Quit
        ; Yes - quit
        bra.s      ST_Back_In
    ; Unknown key, so continue waiting.
;
; ---- User pressed space, re-generate
numbers ....
ST_Space: SYS       ReplyMsg
    ; Don't forget to reply...
          bra       ST_Guess
    ; New guess
```

This is all stuff we've seen before. A1 still points to the IntuiMessage structure, so we can read out the im_Code field, which is a word value. We then compare it to a space and, if so, jump to the ST_Space label. The ASCII code for the ESCape key is 27, so we then check for that and, if it is, we jump to the same ST_Quit routine which is called when the user clicks on the close gadget.

In all cases, we remember to reply to the message. ST_Guess is a new label back-up at the top of the program, which is where we re-start to make a new guess, right after the call to Init_Seed():

```
          bsr       Init_Seed
;
; ---- Initialise variables for our main loop
....
ST_Guess: moveq     #$05,d1
```

Of course, detecting the space and simply re-running from this point is all very well, but we never designed the program to do this in the first place and, as with anything which is un-planned, problems arise. Our problems are two-fold:

- If the lottery guesses consist of a lot of single-digit numbers, the resultant string is far shorter. Because of the leading zero suppression we put in, every time we re-draw the text, it tends to shift back and forward inside the window, depending on the results. Also, some characters are not erased off the screen when we go from a long guess (all two-digit numbers) to a shorter guess.
- We are drawing in RP_JAM1. According to the Rom Kernel Manual, this draws the text with the front pen, but the background remains untouched. So, as we continue to draw text upon text, it becomes unreadable. See the picture for an example of just *how* unreadable this can be.

The latter was a doddle to fix, I simply changed the drawing mode in the IntuiText structure to RP_JAM2.

It now reads like this:

```
WindowText:         dc.b      1,0
; Pens to draw in, front and back
          dc.b      RP_JAM2
          dc.w      0,0
          dc.l      WindowTextFont
          dc.l      OurText
          dc.l      NULL
;
OurText:  ds.b      100
          ; Reserve 100 bytes of text
```

The former problem exists because we've tried to be too clever with zero suppression. The solution is, instead of suppressing zeros, to replace them with spaces. We are then faced with the revelation that since we're dealing with numbers up to five digits long, even the number 4 would contain four spaces in front of it. Time to customise the ShowDecimal5 routine and change it to ShowDecimal2.

The first change is to fix the number of digits we're processing from 5 to 2. This involves two changes – one at the very start and one at the end:

```
ShowDecimal2:       movem.l   a1/d0-d2,-(sp)
                    moveq     #$01,d1
```

This means we're only processing two entries in our Divider table. We then change the divider table to remove the 10000, 1000 and 100:

```
SD2_Dividers:       dc.l      10,1
```

The leading zero one is very easy. Instead of skipping if we have one, we just insert a space:

```
          tst.w     d3
          ; Suppressing zeros?
          beq.s     SD2_Continue ; No
; Yes, so insert space...
          move.b    #" ",(a0)+          ;
Leading zeros converted to spaces
          bra.s     SD2_Skip
```

Whilst I was at it, I changed the name of the function to ShowDecimal2 and all of the label names (which I did with search and replace). Now, all generated strings are exactly the same length, so there are no formatting problems on the screen.

Well, that is it for this month. We've talked a little about fonts and shown how to easily add new functionality to the application. This job is always easier if your program is well structured and documented from the start.

Several functions have changed slightly this month and it is vital to remember to update any comments within the source code. Remembering to do it when you make the changes will save you a lot of trouble later. (It's the same with dirty dishes. Do them when you've eaten and it is easy. Do them a week later and you need industrial explosives and drills to get caked food off...)

It must be said, implementing this sort of program is a whole lot easier in a language such as 'C', or 'C++', but as we've shown it is still definitely *possible* in Assembler. The moral of the story here is to pick the right language for the right job – there are always speed-critical routines which would be implemented better in Assembler. Getting the right mixture and saving yourself as much hassle as possible is the magic bit, but also the hard part.

In the meanwhile, tune in next month for the hardware stuff. But remember, the easiest way to win a pound every week on the lottery is simply *not* to enter. ■

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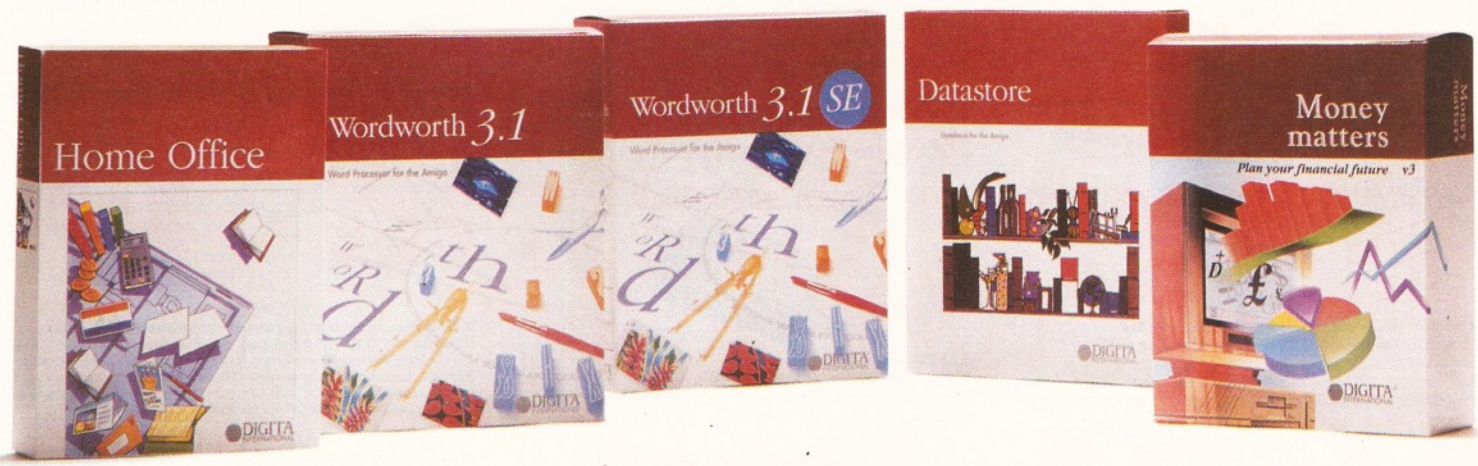
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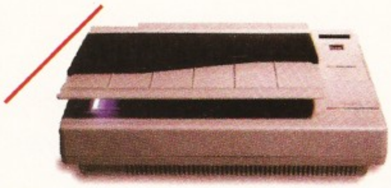
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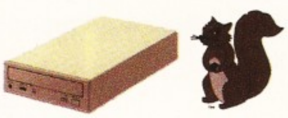
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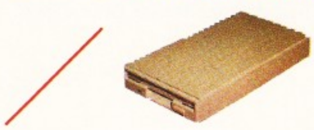
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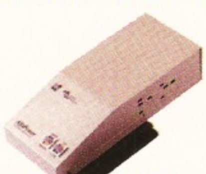
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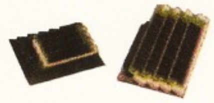
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DICE Part3

Our program is getting larger and more and more challenging. The key to writing any large program is organisation, documentation and experience. **Toby Simpson** *knows all about it.*

C programming is a doddle isn't it? Lets face it, anyone from the family cat upwards can soon learn enough 'C' to put their name on the screen. Fine, ask the cat to write a word processor and it might go and hide under the table, at the very least. There is nothing taxing about learning *a bit* of any programming language. The problems arise when things start to get a little bigger than the 12 times table.

Programming is a little like art in that *anyone* can do it. I can draw, for example, but the most anyone would give for one of my paintings is a kick in the teeth. The thing is that I can't draw *well*. It is very easy to think that you can handle larger programs, but, in fact, you find out that everything gets a whole lot harder exponentially with program size.

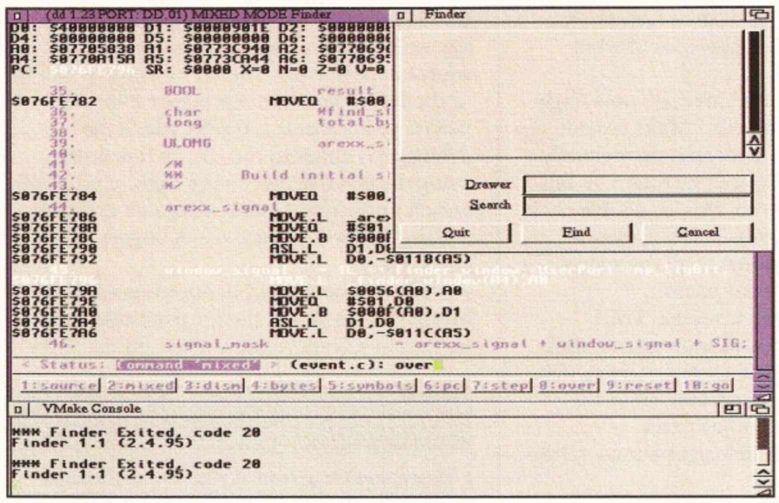
The key to writing any large program is organisation, documentation and experience. Last month, we painstakingly split up our Finder program into separate modules. Of course, we shouldn't have ever let it get into such a mess in the first place – but that's all part of learning how it all works.

As a result of this, we have gained some very useful advantages:

- It is easier to find anything. It is also faster to find anything, as you are loading a smaller file into a word processor which only contains a very specific range of functions. We could look up a GUI function in our gui.c file.
- Faster compile times. The compiler now only needs to re-compile files which have changed, and not the whole lot. We are using the DICE VMake program to manage this.
- Easier maintainability. More than one person can now work on a project, so long as you keep to separate files.

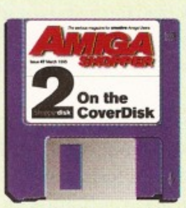
Documentation is something that we've done as we have gone along. Each Functions is documented, with a little brief summary of what it does and what it returns. Inside the code itself, we have also documented key parts with brief comments. This sort of "do it as you go along" form of documenting things is not perfect, but it will certainly do. As for the experience – well, you will get that with experience!

For the next couple of months we'll be taking a look at the Debugger and try to make finding problems in our program a lot easier.



Picture 3. A mixed debug window. This shows the C source code, as well as the Assembly language which it compiles to. The complete 68000 register set is also shown so that we can see what the Assembly language is doing in greater detail.

On the Coverdisk



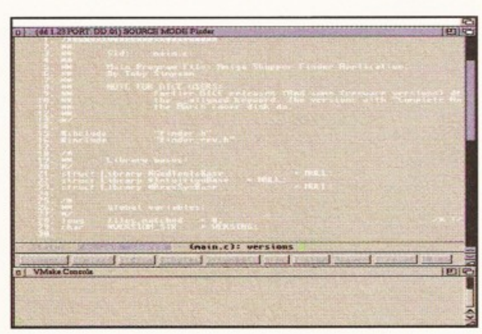
This month, the Coverdisk contains the full Finder application. All the new split up files are provided, along with the VMake configuration file. Current users of DICE can simply double-click on this to get started. For those of you who are interested in seeing what we've been up to for the last six months, but are not following the programming course, check out the executable program "Finder". This comes complete with a very poorly drawn icon indeed.

Bugs everywhere

Bugs, and we're not talking about the ones with six legs which creep around your house at night, are the biggest problem for programmers. Bugs are errors in your program which cause it to not perform as it *should* do. They range from small visual or text errors right up to massive crash bugs which cause your computer to reset.

It is not possible to write a bug-free program. OK, so if you want to be silly you may claim that you could write a program to print your name on the screen and for it to contain no bugs. But, having typed it in, would you put *money* on it compiling and working first time? Hmm. Maybe not. And that is a five line program. This rather major point was completely missed by Reagan with the Star Wars program, the largest program ever written would have to run *first time*. No chance!

It is this strange inevitability of having problems which gave birth to the debugger. A debugger is an application written specifically to assist you to track down and consequently fix bugs in your program. Many people think they don't need them, as they are good enough to find bugs themselves. Do *not* fall into this trap! There are times when you



Picture 1. The debugger loaded for the first time, having just compiled the program in full. Note the source code that is shown and that there is a row of debugger control buttons underneath it.

can find it yourself, and there are times that the job would best be done with the assistance of a debugger.

The DICE debugger isn't bad at all – in that it *works*. It isn't going to win any prizes at a debugger conference, but you will find it essential for the development of any large application. DD (DICE Debugger) is a source level debugger. It allows you to run your program as normal, but see each line of C code because it is executed. You have the option to step through the program a line at a time, seeing what the effects are.

You are also able to do some other neat tricks, like seeing the compiled Assembly language code underneath each C line – ideal for Assembly programmers who want to see what the compiler is doing with their source code! This also has more useful applications, as seeing the compiled code allows you to eliminate compiler error (it does happen) for bugs, and have a much closer idea of what exactly is going on.

So how do we use DD? Well, it's amazingly easy. Firstly, you load up our VMake project. If you were unable to get it all split up manually last month, then the files can be found on this month's Coverdisk. To run VMake, double click on the "Finder.DICE" icon. This will load up VMake, and show you a list of all the source files that are present in our project.

Now select "Options" from the "Edit" menu. When the options window opens, click once on the "Debug Level" cycle gadget so that it shows "Full". This is important, since we need the compiler to generate extra information so that the debugger knows a little more about the program.

Now click on the "Compile" button to make the code compile. Assuming there are no problems (which there won't be off the Coverdisk) the program will then compile without errors. Normally, as we did last month, we'd press the RUN button, or select RUN from the "Run" menu of VMake. Instead, we select the option "Debug". After a short pause, the debugger will load. You should now be faced with a screen similar to that in Picture 1.

Now we're cooking. You may want to make the Debug window a little larger if you have a big screen, so that you can see more of the source code at once. The bit in white (it will be in the colour you have for colour 2 in your palette preferences) is the bit which the debugger is about to run. Scroll this down using the down arrow on the right-hand scroll gadget until you see something of a different colour. This will be stuff the debugger has not got to yet.

The first command in our program is the printf() which shows the program title and version in a Shell window. Press on the "Over" button. This causes the debugger to run the printf() line, but not actually follow it in. The "Step" button is used to go through the program a line at a time, and follow every function call. If we had have pressed "Step" then we would have jumped to the printf() code itself, and seen lots of Assembly language.

You should note that the printf() line has actually been run. Press "Over" a few more times until the lines...

```
if (!(OpenGUI("", "")))
    {
```

...are highlighted. Press "Step". You will now jump into the OpenGUI() function. By a combination of the "Step" and "Over" buttons you can now go through this function a line at a time, seeing each individual action as it actually occurs.

Picture 2 below shows the results just after the OpenWindowTags() call has been made, and just before we start processing gadgets. Our window has just opened, blank of course, with the title set. Note that the debugger knows which of our many source files we are actually in, and shows this on the screen.

As well as operating the debugger by clicking on buttons, we are also able to achieve everything from the keyboard. The "Status" line is actually a command entry field. If you click in it, you are able to type in commands such as "step" and "over" from the keyboard.

Now we can start getting a little more flashy. Select "Mixed" from the "Display" menu. We now see a lot more information. As well as the source code, we can now actually see the Assembly language which it is compiled too. If you've been following our Assembly Language course also, then this will mean a lot more to you. We also have a list of the values contained in each of the 68000 chips registers shown at the top of the screen. This information could be invaluable when it comes to tracking down more stubborn bugs.

We've skimped briefly over the DICE Debugger this month. Next time around we'll examine it in greater detail and look at how to make more effective use of its commands as well as introducing breakpoints. Breakpoints are very handy; you can say "Run the program, but stop when you get to this bit". You can place breakpoints just before trouble spots to make debugging faster and more efficient. In the meanwhile, happy bug hunting! ■

Getting the full version of DICE

On the March Coverdisks we gave away a special version of DICE 3. Obviously the authors of DICE wouldn't make much money if we gave away the whole product, so it was especially cut down. It has the following limitations:

- **You can't use bitfields or floating point.**
- **The maximum executable program size is 40K.**
- **Each source file can only have up to 4 functions in it.**
- **You can't use this version of DICE to generate commercial applications, or for work purposes. It is for the private home usage by Amiga Shopper readers only.**

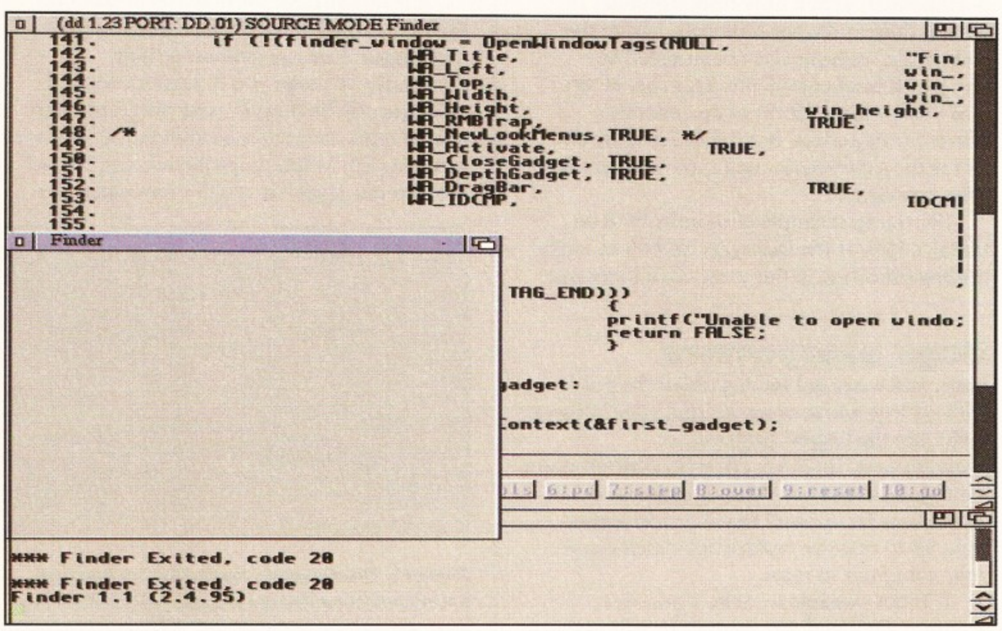
If you're getting into this now, and fancy the entire product together with a 450 page manual (which is hard reading, and leaves a little to be desired), then you can obtain it from the UK Distributors Forth Level Developments, who can be contacted by post, fax, phone or E-mail:

Fourth Level Developments, 31, Ashley Hill, Montpelier, Bristol, BS6 5JA.
Tel: 0117 955 9157 Fax: 0117 955 8225
E-mail: dicecsales@flevel.demon.co.uk
(For sales enquiries.)
dicecinfo@flevel.demon.co.uk
(For general information and enquiries.)

You'll need a full version in order to make use of the revision control system, and also without it you are limited to four functions per file, which could result in some cut'n'pasting with the Finder application!

More bugs

A new version of DICE is due very soon, I hear. This will contain a whole load of new features, and some bug fixes. You may find, in your travels throughout DICE, that in places DICE itself has bugs. I found several bugs in the Debugger for example! This just goes to show that no one is immune to bugs. If you have found one, then there are E-mail addresses in the manual which you can send bug reports to. I recommend you do this, because they can't fix problems which they do not know about.



Picture 2. Having just stepped over the call to OpenWindowTags(), the window has opened.

Internet the easy way

Your Amiga is the glorious gateway to the wonderful world of the Internet, but **Darren Irvine** *can't help wondering whether you are really using the right software to make the most of it.*

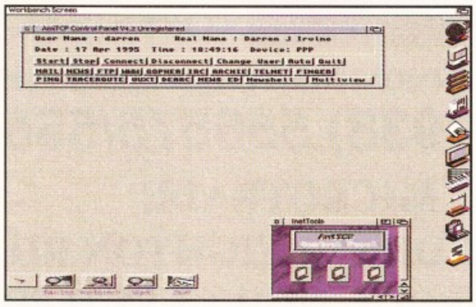
If you're using your Amiga to link to the Internet, chances are that you are using a version of AmiTCP, but if you're not, you really ought to be. AmigaNOS, as supplied by Internet-access providers, such as Demon Internet, is OK as far as it goes, but is much more limited than AmiTCP.

Although AmiTCP is a well put together package, containing all the bare essentials for Internet operation, from FTP and Finger through to Gopher and Telnet, some of the facilities supplied are a little less than user-friendly. Luckily, there are tools available (generally speaking from AmiNet – see the boxout) which can make your life a lot easier.

The Unix-ported FTP application, in particular, is a program that really needs a thorough sorting out – the command line Interface is obscure, to say the least, and the syntax of the commands is based on outdated Unix-style concepts.

There are at least two main contenders for a replacement for the Shell-based FTP client supplied with the AmiTCP distribution (called NcFTP) and both have their advantages and disadvantages. The first is GUI-FTP and is a nice looking system which runs in a re-sizeable window on your Workbench. Although it is easy to install, the distribution archive doesn't actually supply an icon for the program, so you'll have to sort one out for it yourself.

The other main problem with GUI-FTP is



If you like the idea of a tool window this size on your Workbench, take a look at AmiTCP.

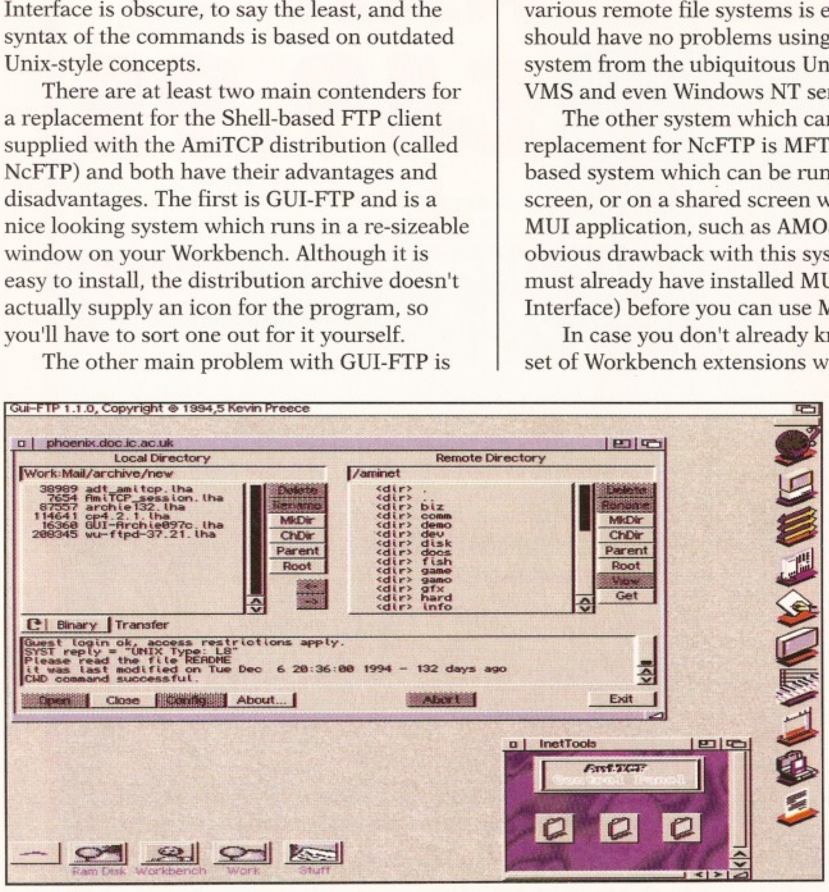
that text-mode transfers have not been fully implemented in this early 1.0 version, but you can always transfer text files as binaries – it's just a little slower. On the plus side, actual file transfers are nice and quick and support for various remote file systems is excellent – you should have no problems using any remote system from the ubiquitous Unix, through VMS and even Windows NT servers.

The other system which can be used as a replacement for NcFTP is MFTP – an MUI-based system which can be run on its own screen, or on a shared screen with another MUI application, such as AMOSAIC. The most obvious drawback with this system is that you must already have installed MUI (Magic User Interface) before you can use MFTP.

In case you don't already know, MUI is a set of Workbench extensions which programmers can use to more easily build up various applications. Since you will almost certainly want to install AMosaic on your machine, you will need MUI anyway and so this problem becomes academic. Beware, however, that programs using MUI almost always require more than 2Mb of RAM to run properly – if you want to get the most from Internet software, you're really going to have to shell out for a RAM expansion.

Apart from the MUI consideration, MFTP is a nice looking system which in some ways seems more user friendly than GUI-FTP, but certain aspects of remote file systems (most notably Unix-style directory "links") are not implemented properly and you sometimes have to resort to typing in the remote directory path by hand, rather than by clicking on the directory names in the remote file requester. However, MFTP does offer the option to use old-style FTP commands directly, using a text requester at the bottom of the screen – handy if you need a quick reminder of why the GUI was invented.

Which of these two systems you use is really up to you, but unless you really like the look of the MUI-based system and have the memory to run it, my advice would be to stick to the Workbench-based GUI-FTP.



GUI-FTP looks the part and makes file transfer to and from remote Internet sites as easy as using a floppy disk.

Taking control

The amount of different programs necessary to get the most from the Internet sometimes seems overwhelming. Although you can get around this problem by using a menuing or docking type system, sometimes you just want to be able to use a single application which will let you use all the available Internet features of your machine. Such a system has been developed in ARexx and is called the AmiTCP Control Panel.

When you click on the Control Panel icon, a window jam-packed with gadgets appears on your Workbench. Each is marked with the name of a different Internet tool, from mail and news readers through Gopher, WWW and FTP, to things like dearchivers and decoders. Each button is assignable to the specific implementation of each feature that you have installed on your Amiga and so Control Panel can be individually tailored to your setup.

Control Panel can also start and stop your Internet session, automatically using your dialler program to connect to your access provider – you can also set an automatic login time, for instance to collect E-mail at a set time each day.

There is also the provision for multi-user support and the ability to add a number of user-defined buttons to the window. Control Panel is great if you can't be bothered setting up a more complicated system, such as ToolDaemon or Toolmanager, but to me it looks a bit naff, which sometimes can be the deciding factor.

It's good to talk

Once an obscure Internet tool only used by obscure Finnish students, Internet Relay Chat (IRC) has become a hugely popular communications tool, used by Internet users all over the world to chat to each other in real time. Although you can use Telnet to connect to one of the public access IRC sites, the only really sensible way to get chatting is to use a dedicated IRC client.

There are at least two such IRC clients available for the Amiga. Since one of them is an almost direct port of the horrible MEMACS-based Unix system (which is a nightmare to install and maintain), the only real option is the Grapevine IRC client. It's a not an unremarkable stroke of luck, then, that the only real option in terms of IRC for Amiga users turns out to be an excellent piece of software – well written and extremely user-friendly.

Grapevine operates in three windows on your Workbench. The first main window is the traditional-style IRC display and command line affair, allowing you to input any of the standard IRC commands, as well as your all-important words of wisdom. The inputs of the other IRC users connected to the same channel as you are echoed to the larger area of this main window.

The second window used by Grapevine displays a list of all the users in the current channel, including such details as whether or not the user is a channel operator (indicated by a little wand icon beside their name). This is an extremely useful little feature, saving you the bother of having to use the "/WHO" command every so often to keep track of who you are actually talking to.

The third window is a button bar allowing immediate access to all the most commonly used IRC commands such as "/JOIN" and "/LEAVE" – Grapevine even automatically inserts the "#" before each channel name.

Grapevine's menus allow a good deal of parameterisation of such information as your default IRC server, your preferred identification and, of course, your IRC nickname. Even if you have only a passing interest in IRC, you should take a look at Grapevine to see what a nicely designed and programmed Amiga Internet application should look like. Beware, however, – the Grapevine is so easy and addictive to use, you might find yourself running up huge telephone bills if you're not careful.

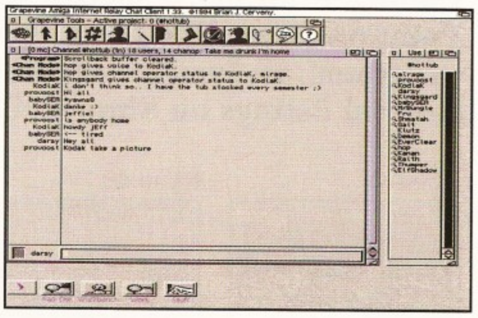


Using the AMosaic World Wide Web browser to view the useful "Spider's Web" site. Just one more reason to buy some more RAM for your Amiga.

What everyone wants

When people talk about the Internet, it seems that what they *really* mean is the World Wide Web and just about every type of computer currently in use has had a Web browser program developed for it. The Amiga is no exception and a version of NCSA Mosaic called AMosaic is available, as always, from AmiNet.

Although it is not as fully-featured as some of the Web browsers available for other platforms (like the "Netscape" on PC and the Mac), AMosaic can handle most of what the Web can throw at it – the most notable exception is the lack of support for the additions to the standard HTML that have been added by Netscape for their browser.



If you're going to use IRC, then Grapevine is the way to go.

Like MFTP, AMosaic requires MUI to be installed first before it can run and also requires more than the 2Mb of RAM found on an unexpanded A1200. Setting it up can be a bit of a pain, but once you are over the initial hurdle, the program is fairly stable and of course easy to use – if it wasn't user friendly it would defeat the object of having a Web browser in the first place.

AMosaic has an ARexx port, allowing, among other things, the user to build up a list of favourite sites as a "hotlist" that can be called up at any time, allowing quick access to useful pages. There is also an extra program available (called appropriately enough "Hotlist") which allows your hotlist to be displayed in a floating window on top of the normal AMosaic screen for even quicker access to your favourite pages.

A Web browser allows you to view documents all over the Internet and move from site to site using an (almost) seamless Interface, whereby the user uses the mouse to click on a series of "links" to move from Web page to Web page in the search for something actually worth looking at, because as the Web becomes more and more popular, the amount of useless junk that is put on it seems to increase exponentially. Still, there are plenty of great resources out there if you look for them – try the "Spider's Web" site at this URL for starters:

```
http://gagme.wwa.com/~boba/spider.html
```

Although the programs mentioned are only a few of a vast amount of Internet applications available for the Amiga, they are the ones that you will probably get most use from. The amount of different software that you install is up to you and there is plenty to choose from – from gating software that allows you to use your FidoNet software to read Internet newsgroups, to programs such as "Sabot" which pops up an icon to tell you that you have got some E-mail.

My main advice would be to install one piece of software at a time and play around with your system for a while. Internet software relies heavily on environment variables and installing one piece of software can wreck the operation of another – of course, this is all part of the fun of the Internet. ■

AmiNet

In the Comms tutorial in the May issue, we took a look at some of the places on the Internet where you could get software for the Amiga. One of the places covered was the multiple sites known collectively as AmiNet and this is the place to look for Internet and Comms-related software.

All the programs mentioned this month are available in the /comm/tcp directory on any of the AmiNet mirrors. Use one of the following FTP sites:

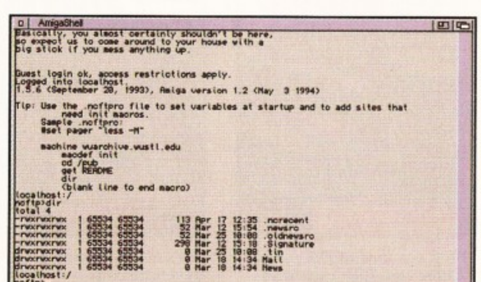
```
ftp.wustl.edu
/systems/amiga/aminet/comm/tcp

ftp.uni-paderborn.de
/pub/aminet/comm/tcp

ftp.doc.ic.ac.uk
/pub/aminet/comm/tcp
```

The programs mentioned are contained in the following archives in the above directories (note that correct capitalisation is necessary):

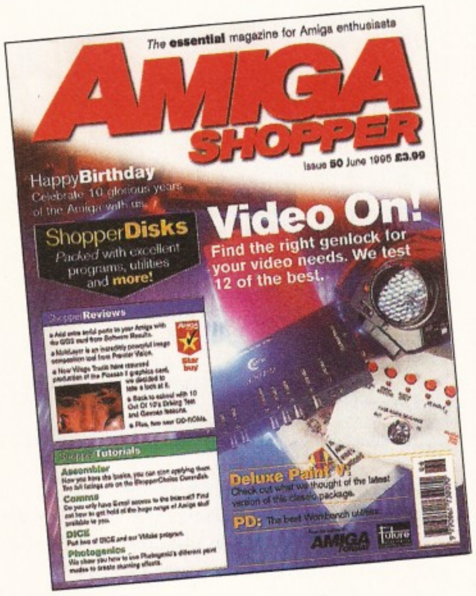
Program	Archive Name
GUI-FTP	GUI-FTP.lha
MFTP	mftp.lha
Control Panel	cp4.2.1.lha
Grapevine	grapevine-1_33.lha
AMosaic	Mosaic1.2AmiTC.lha



NcFTP does everything you could expect of it, except look nice and be easy to use. You'll have to use it once to download either GUI-FTP or MFTP.

Back issues

Did you miss out on some of those informative tutorials, reviews and features? Here's your chance to catch up.



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Genlocks Supertest; 10 years of the Amiga – a birthday celebration; PD – Workbench utilities; reviews of GoldenGate2, Picasso II, DPaint V, Multilayer, The Light Works, 3D Arena and more; Photogenics, Assembler, DICE and Comms tutorials; a special version of Personal Paint on Coverdisk 1 and three useful full programs, an Imagine object and the usual tutorial listings on ShopperChoice disk 2........£5

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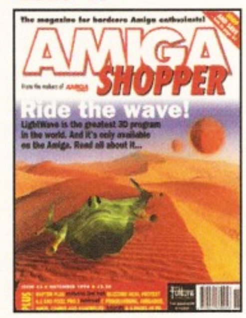
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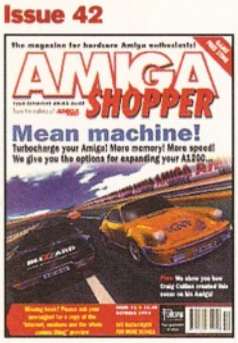
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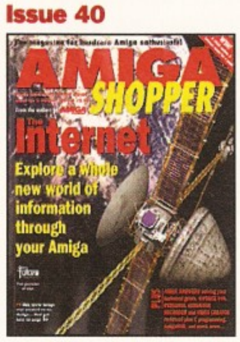
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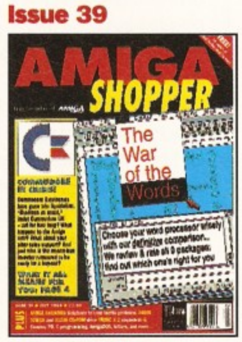
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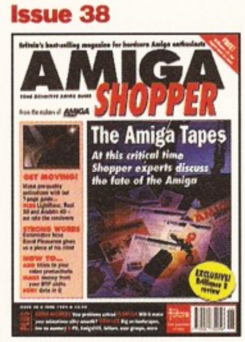
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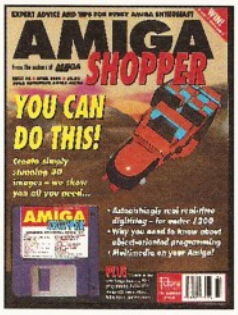
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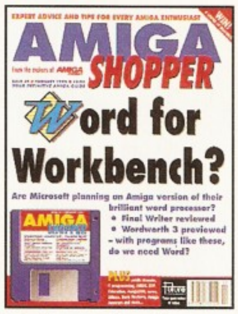
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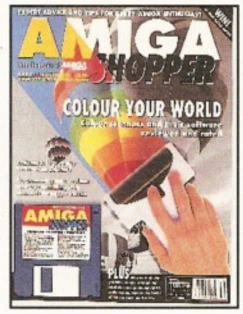
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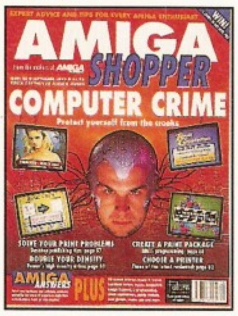
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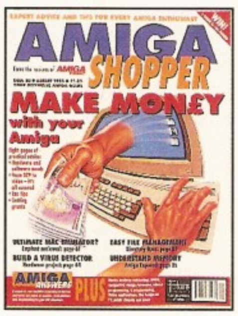
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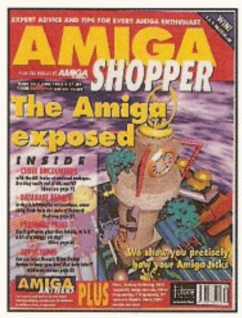
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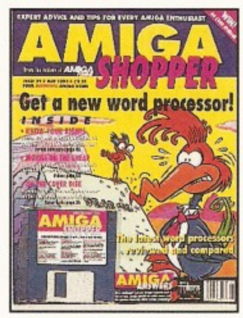
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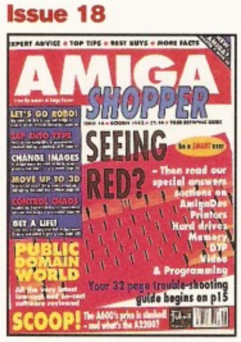
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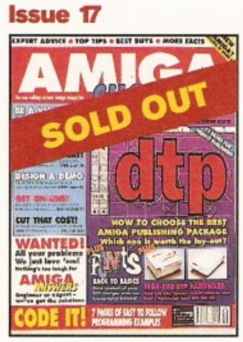
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Public Domain

*The Public Domain market is constantly teeming with great stuff. This month **Jason Holborn** goes on a mission to find the very latest offerings and reviews them mercilessly to find out if they keep up the standard.*

This month, I decided to rummage through some PD libraries to find out what's hot on the Public Domain scene at present. As usual, I was (mostly) pleasantly impressed by the goodies available for next to nothing.

Mal's Map Editor

F1 Licenseware disk F1-080

As any games programmer will already know, there's a lot more to games programming than simply writing reams of program code. Although such code forms the backbone of a game, games programmers also have to rely on all manner of tools to help them to create such things as game graphics, music, sound effects and, last but not least, game 'maps'. If you're writing a game that uses more than a couple of static screens, a game map editor is an absolute must.

There are plenty of PD map editors available, but you're unlikely to find one that's as well specified and as easy to use as Mal's Map Editor from F1 Licenseware. Written to help the author, Malcom Lavery, to design game maps for simple flick screen Dizzy-style games, Mal's Map Editor can also be used to create backdrops for scrolling arcade games. Like other map editors, Mal's Map Editor lets you design game maps using a selection of square graphic 'tiles' which you define in a paint program and then load into the program separately. Although these tiles may not look like much on their own, some very complex screens can be created with ease – as the included sample maps amply demonstrate.

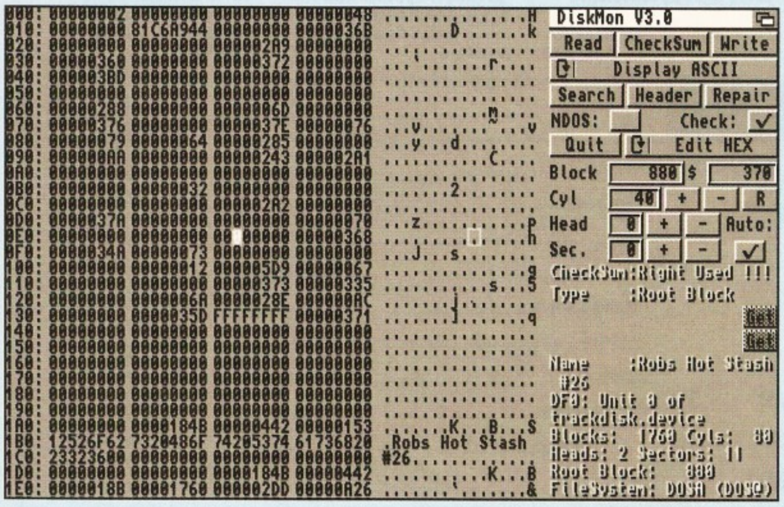
Mal's Map Editor is a powerful utility that no self-respecting programmer should be without. My only concern is the rather minimal documentation which fails to detail any of the program's major features in any great depth. Although the programmer admits that he hates writing documentation, more effort is definitely needed to make the program more accessible. If you can live with the lousy documentation, however, give Mal's Map Editor a try.

Rating 78%

DiskMon

17 Bit disk 3522

One of the most impressive PD utilities we've managed to unearth this month has to be DiskMon on 17 Bit disk 3522. DiskMon is a powerful disk-utility that, unlike similar programs, provides virtually every disk tool you could need in one easy-to-use program. At its simplest level, the program acts as a disk editor which can be used to directly edit either disk blocks, MFM, a disk's BAM (Block Available Map) or any binary file. Even these basic operations are handled very well indeed with full search facilities and full support for standard Amiga 880K, high density 1.76Mb, CrossDOS 720K and 1.44Mb disks.



Built into DiskMon is a powerful disk block editor that lets you directly modify the data on any double or high-density diskette.

Also included is a powerful disk optimizer that lets you reorganise your disks to improve their loading speeds. This works by reorganising disks to decrease the amount of fragmented files. There's also an undelete tool which lets you rescue files that you may have accidentally deleted.

Finally, there's a RepairTrack tool which attempts to recover lost data on a floppy disk caused by read/write errors.

The only spanner in the works which ruins an otherwise brilliant utility is a very annoying shareware notice that seems to pop up every 10 seconds or so. OK, so it's important to encourage potential users to register their copy of DiskMon, but such a prompt serves only to turn you off the program before you've had a chance to discover what it has to offer. I'm sure that the author has probably lost more potential users than he has managed to encourage to register. Having said that, the registration price of US$20 is definitely money well spent.

Rating 82%



Spruce up your video presentations with Precision's Video Backgrounds collection.

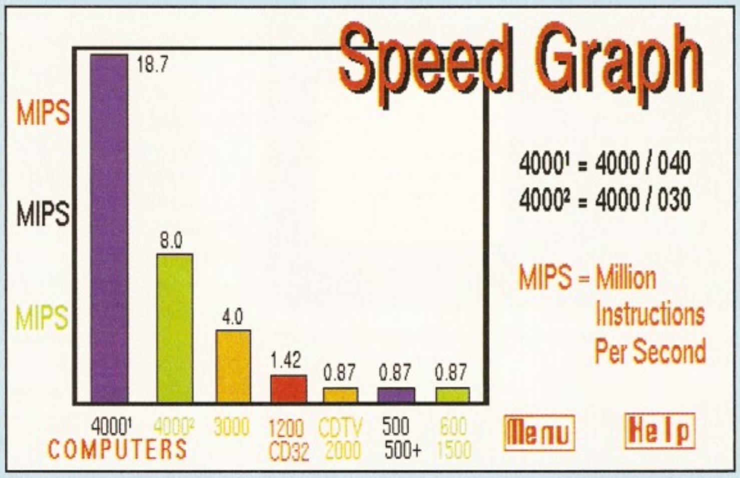
Video Backgrounds 1

Precision

Video and 3D fans should form an orderly queue to get their hands on Precision's Video Backgrounds Volume 1. The four-disk pack, which retails for £11.99, consists of 35 scanned 24-bit background images saved in JPEG



Can you spot the difference between a project icon and a program icon? Buy yourself Amiga Assist! and you'll be icon-spotting in no time.



This er... pretty graph is just one of the many diagrams that Amiga Assist! uses to illustrate a wide range of technical subjects.

format. This does obviously mean that you'll need a graphics package which supports the JPEG format – Precision recommend Personal Paint, ADPro, Photogenics, ImageFX etc – but there are plenty of JPEG converters available in the PD libraries (such as 17 Bit's Rend24 on disk 2937) for those of you not lucky enough to own any of the packages mentioned earlier. The textures include slate, wood, stone, gravel, pebbles and enough flowers to keep even the keenest rendering horticulturalist happy for months.

Rating 80%

CLIndex Professional 2.0

F1 Licenseware disk F1-073

Whilst most beginners get to grips with the Amiga's Workbench environment fairly quickly, the same certainly cannot be said of the CLI. Written to provide experienced Amiga users with a more direct method of carrying out common disk 'house cleaning' tasks such as deleting and copying files, formatting disks and so on, the CLI is about as friendly as the reception Medi Ali would receive at a reunion of ex-Commodore employees. Far more friendly, however, is F1 Licenseware's new CLIndex, a comprehensive guide to the intricacies of the CLI.

CLIndex Professional is an online reference guide to the principles behind the Amiga's CLI environment and its many C commands. Aimed at Amiga users who need a quick and easy reference guide to the wide range of CLI commands on offer, CLIndex documents each and every command in clear and fairly concise English. Each command is detailed using a fairly strict 'template' format which, as well as providing an overview of what the command does, details the meaning of every parameter, along with a couple of examples. Whilst this certainly works for most commands, the author's grammar often leaves a lot to be desired.

Although CLIndex's content is sound enough, what really lets it down is its front end. Unlike other online guides, no attempt has been made to provide the user with some form of friendly menu-driven user Interface. Instead, the author has simply provided the description for each command as a separate text file which is viewed using a 'More' text viewing utility.

Even then, you have to search for the text file manually before you can view it. With Commodore's own Hypertext AmigaGuide tool available with all Amigas, there really is no excuse for such a shoddy front end.

Rating 40%

Amiga Assist!

F1 Licenseware disk F1-074

The author of CLIndex could certainly learn a thing or two from F1 Licenseware's other reference title, Amiga Assist! It's aimed at the sort of Amiga user that, unlike CLIndex, doesn't want to know everything there is to know about a particular subject. Instead, Amiga Assist! provides nice, easily digestible facts about a wide range of Amiga-related subjects.

The author, John Cummings, has used Gold Disk's HyperBook to produce a fully mouse driven Interface so you can find the information you want quickly and easily.

The range of subjects that the package covers is diverse. As well as the usual technical subjects (DOS commands, AmigaDOS scripts, Workbench operation and so on), Amiga Assist! also provides background information on the Amiga range and a number of peripherals, including monitors and hard drives. There's also a handy A-Z guide to Amiga terms which contains over 150 definitions.

It may not be the most comprehensive reference guide you could buy for your Amiga, but the logical design and lucid explanations make this is an ideal starting point for all Amiga beginners. Highly recommended!

Rating 78%

Cynostic Utilities 44

Cynostic PD disk U0208

Do you want to get your hands on the very latest PD utilities? You need a comprehensive compilation disk, that's what! Cynostic PD, those 'oh, so nice' purveyors of some of the best in PD software, have released another compilation disk, packed with the latest and greatest PD utilities. Here's a guide to what you should expect to find:

AutoFormat – If you've ever used an Apple Macintosh, then you'll already know that when you insert an unformatted disk into a Mac drive, the Mac will detect that it's unformatted and load its disk formatting utility. Not surprisingly, AutoFormat provides the same handy feature for Amiga users. Good, eh?

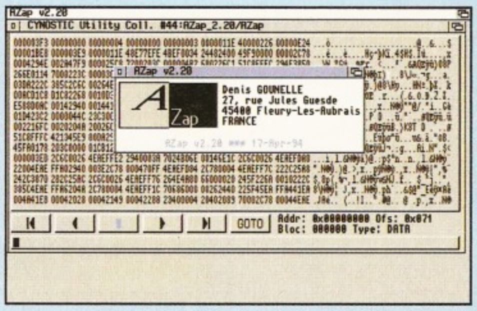
DOSTrace – DOSTrace is a utility that sits in the background and monitors all file accesses that other programs running at the same time may make. This can be handy if you find that a utility you've installed on to a hard disk no longer loads.

More often than not, the program stops working because you haven't copied all the right files. With DOSTrace, however, you can find out exactly what files are missing.

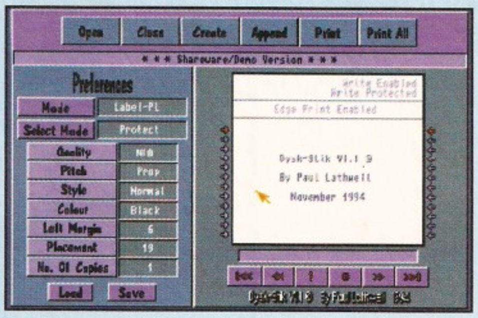
Scrambler 2 – If you need to protect files from prying eyes, then Scrambler 2 could well be for you. Using complex encryption routines, Scrambler lets you, er... scramble files which will appear as total gibberish when viewed. You can, of course, unscramble the files for your own perusal.

AZap 2.2 – AZap is undoubtedly one of the best PD binary file editors available. AZap lets you edit binary files (executables, data files etc.) on a byte-by-byte basis. You need to know what you're doing to get the most from AZap, however, so use it carefully.

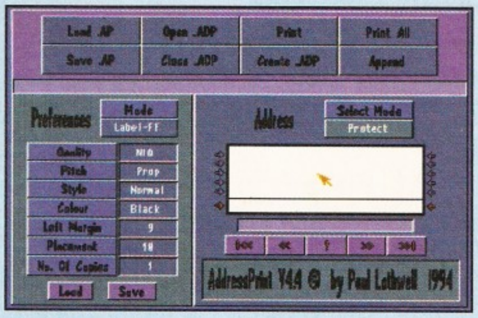
PFS – Short for Professional File System, PFS is an attempt to rid the Amiga of Commodore's own very slow file systems by



AZAP is still one of the best PD binary file editors available. It enables you to edit any file or executable at a binary level.



Improve the quality of your disk labels with Roberta Smith's Dysk-Stik.



Need to print a large number of disk labels? AddressPrint is ideal.

85 replacing it with an all-new file system which the author claims speeds up your Amiga drives considerably. With PFS installed, your Amiga writes files 300 per cent faster and reads them 50 per cent faster. Sounds good, eh!

XFH – Similar to Power Computing's Disk Expander package, XFH provides a transparent method of automatically compressing and decompressing files that have been written to a hard disk. On average, using a program like XFH can actually double your hard disk's capacity.

Rating 78%

Junior Artist

F1 Licenseware

Is there a junior artist in your household? Is your son or daughter a budding Van Gogh, a potential Matisse, or a would-be Lowry? With F1 Licenseware's Junior Artist, you can find out. Similar in style to commercial offerings such as Kid Pix and Smarty Paints, Junior Artist is a paint program aimed at young children. Although much of what's on offer can also be found in paint programs aimed at adults, Junior Artist's front end has been tailored for young children.

Featuring bright and colourful buttons, it's not only easy to use, but sure to hold your child's interest for long periods of time. Like a 'real' paint program, Junior Artist includes all the usual painting functions, but in a more simplified and easier to use form.

There's the usual freehand draw, circles, boxes, airbrushes and so on, but these are backed up by a series of fun paint functions, such as silly spots, fountain, flakes, fan draw and grow circle etc. To point your child in the right direction, Junior Artist also provides a series of basic background images (a castle on a hill, a desert island, a polar icecap and so on) which can be pasted down and then used as the basis for your child's own artistic creation.

A number of clip art images are included to further enhance these backdrops – trees, cars, people and so on – which can be pasted down on to the canvas. Finally, there's Junior Artist's 'colouring book' option which lets you child 'colour in' any one of eight predefined images, using the wide range of painting tools included. Even if your child does tire of the images on offer, there's no reason why you can't define your own and then load them into Junior Artist as IFF images.

It's rare to find a Public Domain program that comes close to its commercial rivals and rarer still to find one that matches them but that's exactly what we have here. Put simply, Junior Artist is the best £4 you could spend on Public Domain software this month. If you have children, Junior Artist should be at the top of your software shopping list.

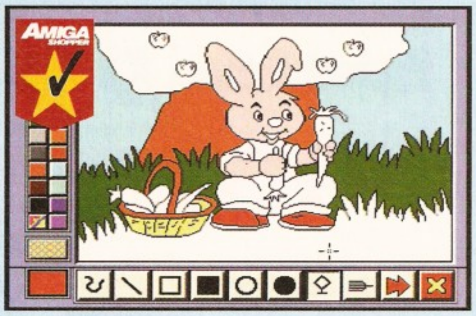
Rating 90%

Dysk-Stik

Roberta Smith DTP

How exciting are your disk labels? Are you the sort of person that uses a black marker pen to scribble on to the plastic casing, or do you create neat labels to be proud of? If you fall into the latter category, you need Dysk-Stik.

Written in AMOS, Dysk-Stik is a feature-packed database program, designed specifically for the task of producing disk labels. The program lets you replace all those tatty, hand-written labels with smart printed labels. As you'd expect, Dysk-Stik provides extensive preference controls including print quality, character pitch, style and colour, full margin and label placement controls.



As they say on Blue Peter, here's one I prepared earlier. Create your own masterpieces with F1 Licenseware's Junior Artist.

Other useful features include edge printing, a handy feature which lets you print a disk's name and number along the edge of the disk label so that when the disk is placed into a disk box with other disks, you can quickly find it by simply scanning the edges of each disk.

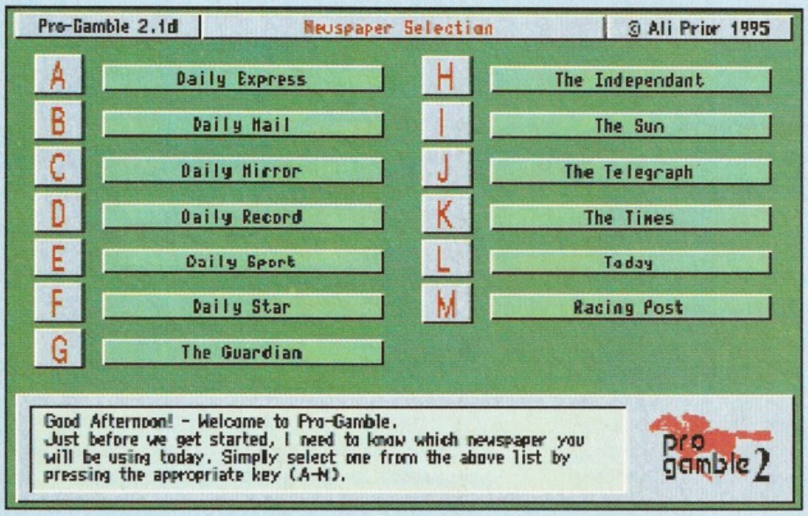
Surprisingly, the program does not let you place IFF graphics on to your disk labels. This minor limitation wouldn't be too much of a problem if it weren't for the high standard of Roberta Smith's own disk labels, which are designed using a desktop publishing program. Problem is, you naturally assume that the disk label on the Dysk-Stik disk was produced using Dysk-Stik which is most definitely not the case.

If Dysk-Stik were sold as a commercial product, I could see Roberta Smith running into all manner of problems under the Trade Descriptions Act. After all, what you see is most definitely not what you get!

Also available from the same author are two other utilities designed along the same lines as Dysk-Stik – AddressPrint and OnForm. AddressPrint 4.4 is a handy little address printing utility that, like Dysk-Stik, has been written to not only print your labels, but to also store them in a database format, so that you can quickly and easily access them should you need to print more labels in the future.

Finally, there's OnForm which can be used to store and print invoices. Like Dysk-Stik, both utilities suffer from lousy documentation which only helps to make the utilities that bit harder to learn. If the author were to spend more time on documentation rather than fancy features, all three would have been great.

Rating 65%



Get your own back on the bookies with Ali Prior's excellent ProGamble horse racing prediction program.

ProGamble 2

Ali Prior, 10 Lovell Park Heights, Leeds LS7 1DP

Amiga owners who enjoy the occasional flutter on the horses will love Ali Prior's horse racing prediction program, ProGamble 2. Similar in design to the many commercial prediction programs available for the Amiga, ProGamble 2 requires no racing or computer knowledge, so complete beginners should feel right at 89



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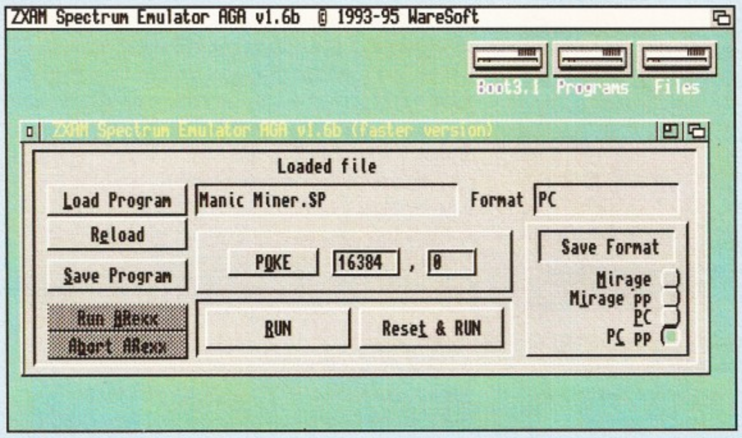


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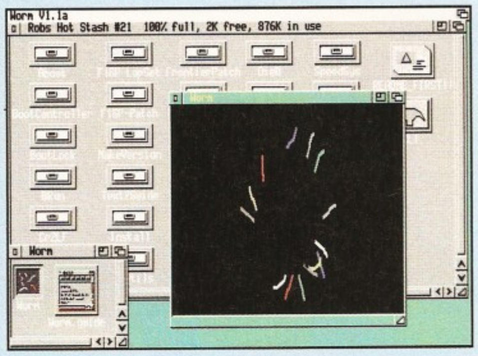
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Run your favourite Spectrum games without having to go near a rubber keyboard!



Are there life-forms growing on your Amiga? If so, then you either have a very dirty monitor screen or you're running Tim Kreuzer's Worms program!

86▶ home with the program. According to the author, all the details required for a single race can be entered in little more than half an hour using details obtainable from most daily newspapers.

As with any gambling program, the best recommendation for the advice ProGamble gives is measured in the amount of success that users have obtained. According to the author, he has received several letters from satisfied ProGamble users, claiming to have won substantial amounts of money based purely on the advice given to them by the program. With the release of version 2.0, Ali expects even greater success for his program.

The program is split into three sections. You start by entering basic details about each of the races taking place on a given day (this takes about 2-3 minutes), after which the program tells you which race is worth placing a bet on. If you choose to accept this recommendation, you then enter the form details of the top six favourites in each of the recommended races using the information from a daily newspaper. Once you've done this, ProGamble then displays its predictions in a variety of different formats along with a list of recommended bets (Yankee, Placepot etc.).

Rating 82%

ZXAM Spectrum 1.6b

KEW=II disk 01041

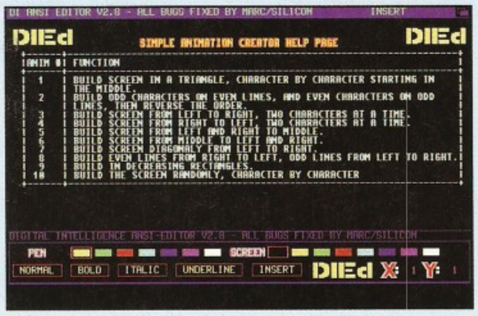
Spectrum emulators are all the rage these days with Amiga, ST and PC owners kickin' back their 32-bit processors to run games written to work in less than 48K of memory. Those of you that missed out on the glory days of Sir Clive Sinclair and his rubber-keyboard-wonder may not quite understand the fascination, but, for the rest of us at least, KEW=II's latest release will give you an opportunity to relive those golden days.

Originally developed for AGA Amigas only, the author of ZXAM has rewritten his emulator to run on any Amiga equipped with a 68020 processor or greater. OK, so this may rule out standard A500s and A600s, but at least owners of other accelerated Amigas can now get a slice of the retro action. This latest version now loads more 'snapshot' formats (including packed games) and runs Spectrum games that little bit faster.

To get you started, KEW=II also include a number of 'sample' Spectrum games including AirWolf, Atic Attack, Bomb Jack, Knight Lore and so on. If you should happen to get bored with these, further game packs are available from KEW=II and a number of other PD libraries. I'm not quite sure how legal these packs are – it may be worth checking with the library in question before you buy a disk which may infringe on someone's copyright.

The most impressive aspect of ZXAM is its high level of compatibility and its high speed. Every single Spectrum 'snapshot' I tested with the emulator worked without problems. Indeed, the only problem you might encounter is your favourite Spectrum games running too fast. For aged gamers everywhere, ZXAM is a blast.

Rating 92%



DieD lets you create complex artwork using nothing more than ANSI 'block' graphics.

Rob's Hot Stash 21

17 Bit disk 3466

Compilation disks containing several well known PD utilities are nothing new, but you'd be hard pushed to find one as packed as this offering from 17 Bit software. Whilst most PD libraries are happy to cram 10 or so utilities on to a single disk, Rob (whoever he may be) has managed to squeeze no fewer than 26 separate PD utilities on to this disk. In value for money terms, at least, this has to be a winner. The range of utilities on offer is certainly diverse. Here's a quick run down of the more useful programs on offer:

BootController – BootController is a clever program written for those who want to protect their hard disks from prying eyes. The program lets you assign a 20 character password to your hard disk, which the program asks for whenever you reboot your Amiga. You can also write-protect hard drive and even 'lock' your hard drive completely.

MED Utilities – Fans of Teijo Kinnunen's excellent 'tracker clone' will find these four utilities very interesting indeed. The utilities are: MEDPlay (a very small replacement for Teijo's own player utility), MEDRip ('rip' modules written with MED or OctaMED from memory and save them to disk), MEDAlloc (protects MED modules in memory from being erased, therefore making it easier to 'rip' them) and MEDWipe (removes any modules you protected with MEDAlloc).

Browse – Not to be confused with the directory utility of the same name, Browse is a very simple program that lets you execute any program on your hard disk simply by selecting it from a file requester. Three different versions are provided – one for the ARP requester, one for Commodore's ASL requester and another for the ReqTools requester.

DieD – Comms fans will love this ANSI editor written by the programming group Digital Intelligence. Put simply, the program lets you create pictures suitable for upload on to most bulletin boards using the ANSI character set. This version provides all the usual ANSI editing functions, plus a few 'tricks' of its own. Definitely worth investigating.

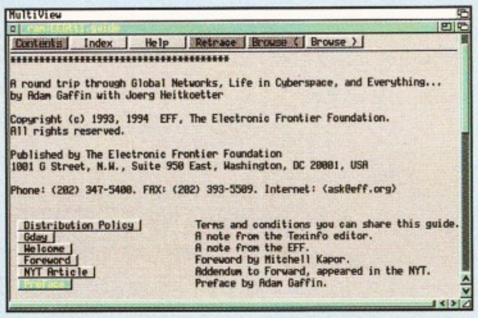
Worm – OK, so it's not the most useful program on the disk, but Worm is fun nonetheless. Based on the Unix original, Worm is a little program that uses 'computer life' algorithms to simulate the growth of micro organisms. It's just the thing every Amiga needs.

Rating 82%

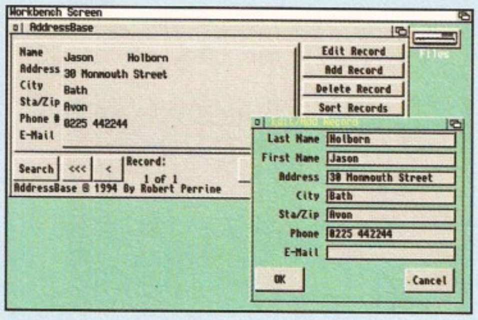
Rob's Hot Stash 26

17 Bit disk 3522

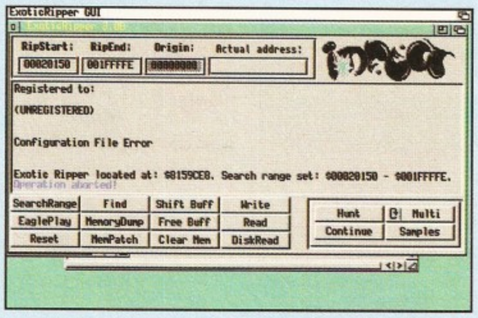
17 Bit's Rob's is back and this time he's brought with him a whopper of a disk containing no



Explore the Internet without adding a penny to your phone bill with 17 Bit's Internet guide



Keep track of the addresses and telephone numbers of your friends and relatives with AddressBase on Rob's Hot Stash 26.



Exotic Ripper is the latest module ripping utility available. It lets you to 'rip' modules from memory that have been left in memory by games and demos.

89 fewer than 17 new PD utilities, most of which are of very high quality. Once again, here's a run-down of a few of the more interesting programs on offer.

AddressBase – Everyone needs an address book utility to keep track of all the names, addresses and telephone numbers that we all forget from time to time. This handy address book database offers all the usual editing features along with a goodly selection of printing and searching functions.

Exotic Ripper – Exotic Ripper is the latest in a long line of so-called 'ripper' utilities that let you search for sound modules left in memory by games and other programs. Once found, Exotic Ripper lets you save them to disk for editing within any Sound Tracker utility. Boasting a full Workbench 3.0 compliant front end, Exotic Ripper is definitely one of the best programs of its type.

EditKeys – It may be old, but EditKeys is one of those utilities that no Amiga user should be without. The program lets you edit standard Amiga keymaps. As well as simple single key definitions, you can allocate entire strings to a key so that when that key is pressed, a Shell command or indeed any string is feed into the keyboard input stream.

HotScreen – Locating the screen you want can be a hit and miss affair, but if you've got HotScreen installed on your system. Hot Screen lets you quickly and easily select screens without having to flick through them by clicking on-screen depth gadgets. Simply press the appropriate hot keys and HotScreen's window appears complete with a list of all available screens. You can then select the screen you want by selecting its name from the list of those available.

Rating 76%

Internet Guide

17 Bit disk 3506

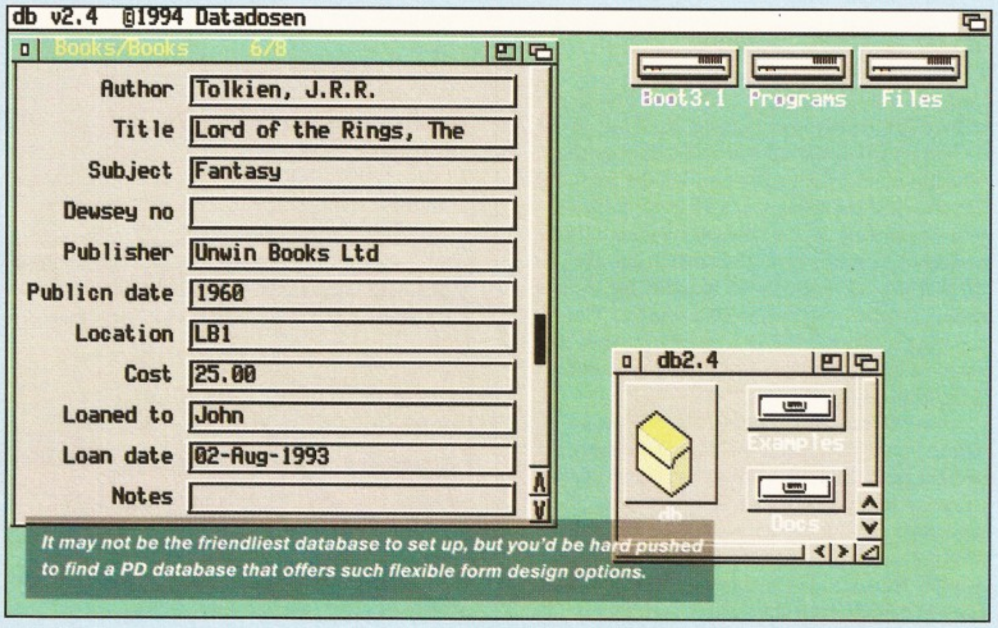
Unless you've spent the last couple of years mining sheep and shearing coal in deepest Wales, you cannot have failed to notice just *how* excited the media has become about the Information Superhighway – the wondrous Internet.

Now, with this latest release from 17 Bit Software, you can discover the answers to all those Internet questions you've been dying to ask. The Internext Guide is an AmigaGuide-format Hypertext guide to all things Internet – it aims to explain what the Internet is, what it can do for you and how you can get online with the best of 'em.

Written by the Electronic Frontier Foundation, the guide is structured in a very similar manner to a book, with a preface, contents list, index and so on. Once you've flicked through the various forwards and prefaces from Internet dignitaries, the guide documents how to 'jack in' to the 'net (what equipment and software you'll need, how to access an Internet gateway and so on), E-mail (what it is, how to send it, where to send it and so on), Usenet (the so-called global 'watering hole'), Telnet, FTP and so on.

If such terms mean nothing to you then don't worry – once you've read through the Internet guide, all this Comms gibberish will become crystal clear.

Rating 82%



It may not be the friendliest database to set up, but you'd be hard pushed to find a PD database that offers such flexible form design options.

DB 2.4

17 Bit disk 3469

There are plenty of PD utilities available, but few can be described as anything more than simple card box utilities. DB, on the other hand, is something entirely different altogether. Written by David Ekholm, DB is a small, but very fast, database program written by the author as a result of his disappointment in the quality of PD databases. Originally designed to hold names and addresses, but little else, this latest version has been enhanced to handle just about any type of database you care to throw at it.

What really makes DB special is its powerful form controls. Not only does the program feature a full Workbench 3.0 compliant front end, but you can also set up your database form using standard GadTools gadgets such as string gadgets, radio buttons and so on.

The only minor quibble that I have with this is the lack of any form editor – instead, you're expected to use a standard text editor to write a datafile that defines the database fields and the layout of the database's form. Although the author does plan to correct this limitation, it's unlikely to find its way into the PD version.

This minor gripe aside, defining your database and form with a text editor isn't as difficult as it sounds. That said, the author includes a selection of common databases – an address book, record collection database, a surf-board catalogue (I kid you not) and so on – which you can use should you be a little squeamish at the thought of defining your own. Combine this with the program's powerful search facilities and it's easy to see why DB is a winner. It may not be suitable for beginners, but experienced users should check it out.

Rating 72%

FreeForm

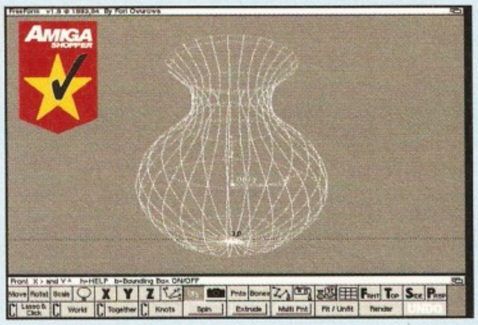
17 Bit disk 3502

The prize for most interesting PD program of the month has to go to 17 Bit's FreeForm, a utility that should be of particular interest to 3D graphics fans. FreeForm is a powerful spline-based 3D object editor that can be used to design objects for a number of 3D rendering packages, including VideoScape 3D, Imagine and even LightWave.

Although this PD version is only a demo, its object editing functions are complete. The amusing thing about FreeForm are the apologies the programmer makes about his program – if this is his idea of a 'fudge', then 93



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Create your own tasteful vases with FreeForm. LightWave it may not be, but its spline-based object editing tools are an absolute joy.

90▶ I'd love to see what he could produce if he put his mind to it.

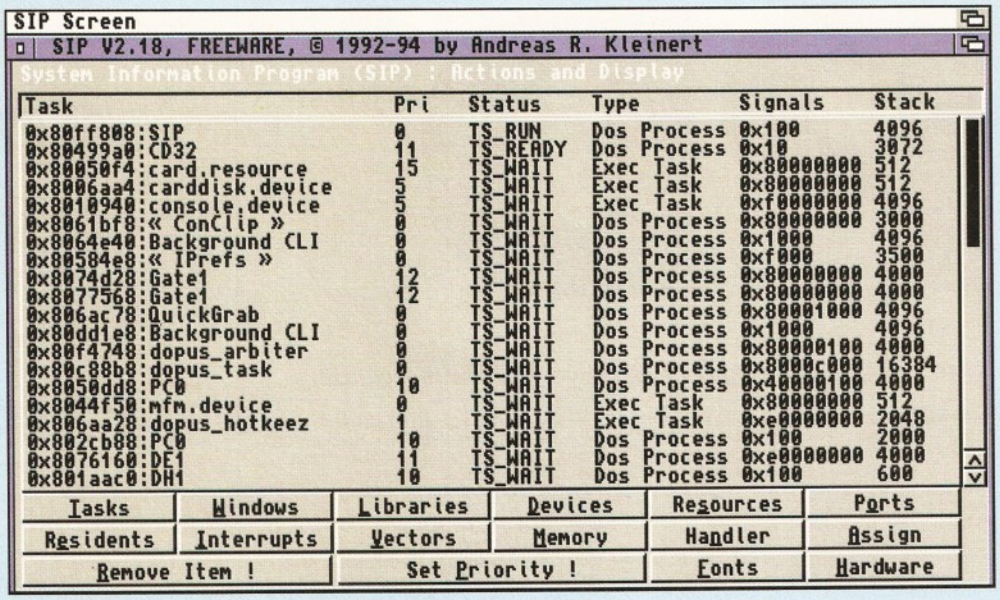
Creating an object in FreeForm is amazingly simple. To create a vase object, for example, you just draw half an outline by strategically positioning a number of points. FreeForm then uses these points to calculate a spline curve which you can then 'spin' to produce your vase. FreeForm isn't just restricted to simple 'lathe' objects either – you can also taper, twist, conform to a sphere, tension, and even morph your spline objects into all manner of weird and wonderful shapes.

Like Imagine, FreeForm even supports 'bones' so it's possible to produce articulated objects! Combine these powerful editing functions with FreeForm's comprehensive animation tools (yes, you can even animate your objects) and I challenge anyone not to be impressed!

FreeForm lets you render your objects too. Although it's not quite up to the same standards as the rendering options offered by dedicated rendering systems like Imagine, FreeForm fully supports the AGA chip set and even texture mapping and the images it produces are very impressive indeed. Unfortunately, this release is restricted to grey scale renders only, but, as the author is keen to point out, final renders should be carried out in a program like Imagine or Real3D.

If FreeForm were to be released as a commercial product it would still be impressive. The high system requirements are a bit worrying – you need at least 2Mb of RAM and an 030+ with a maths co-processor to run it – but, if your system is up to it, FreeForm is a must. In conclusion, FreeForm has to be Amiga Shopper's PD pick of the month.

Rating 92%



Keep your system in tip top condition with Cynostic's system information utility, SIP 2.18.

Cynostic Utilities 54

Cynostic PD disk U0231

Although not quite as packed as the Rob's Hot Stash series of utilities disks, Cynostic's utility disks contain some of the finest PD available. Here's a run-down of the goodies you'll find lurking within its binary bowels:

ECopy 1.0 – Ever wanted to copy files from your hard disk on to a series of floppy disks, without having to decompress the whole lot just to access a single back-up file? If so, then you need ECopy. ECopy automatically calculates the 'best fit' for a series of files and then transfers them to disk to make best use of the disk space available.

JPegAGA – JPegAGA is a utility that lets you view images stored in JPEG format on an A1200 or A4000 using the full graphic capabilities offered by the AGA chip set. Images are displayed in full 256 colours.

SIP 2.18 – Short for System Information Program, SIP lets you examine the innermost depths of your Amiga. Similar to the PD classic ArtM, SIP can display information on tasks currently running in memory, residents, interrupts, libraries, vectors, your Amiga's hardware and so much more besides. In addition, SIP lets you clean up your system in the event of a program crashing.

Rating 68%

Magnum Pro

F1 Licenseware disk F1-001

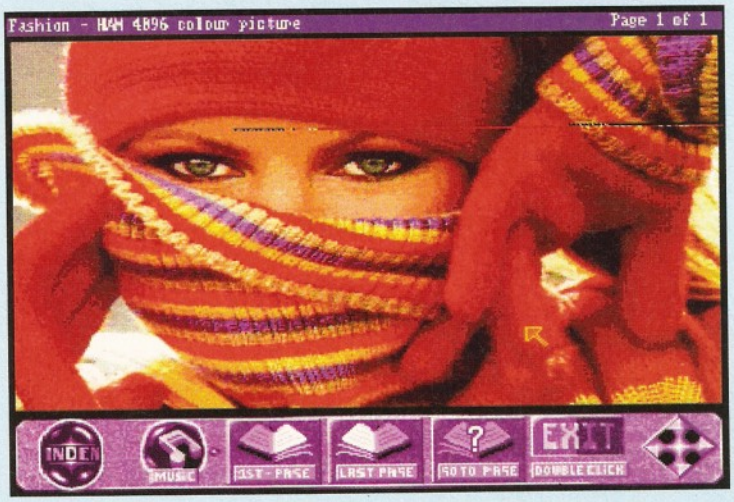
Disk magazines are all the rage and it's easy to see why – with the cost of producing a printed fanzine being too much for most Amiga users, disk magazines are very cheap (i.e. the cost of a blank disk per copy) and are easy to duplicate (no expensive photocopying/printing charges).

But how do you go about creating your own disk magazine? You use Magnum Pro. Magnum Pro is a very powerful utility written entirely in AMOS that lets you create your own disk magazines with ease. Offering a similar style to such established disk magazines as Grapevine, Raw, Deadlock and so on, Magnum Pro lets you create your own disk magazines (complete with text, pictures, sound etc) with no coding required whatsoever.

It works by reading a number of data files which you create that hold all the information that Magnum needs in order to display your disk magazine. The first of these is Magnum.index that holds the filenames of any 'articles' (text files) can be displayed by the user, screen colours and so on. Then there's Magnum.panel which holds the disk magazine's panel graphics.

The documentation provided with Magnum is a little minimal, but, as with all programs of this type, the best way to get to grips with it is to experiment – certainly the demo 'magazine' supplied with Magnum provides a handy example of how it's really done. The quality of magazines you can produce with Magnum Pro is not far short of breathtaking. If you want to create your own disk magazine, then Magnum Pro is certainly the program to use and it comes highly recommended.

Rating 86%



Want to create your own disk magazines, but can't code for toffee? Magnum Pro is the program you need.

PD houses

This is your truly comprehensive PD house guide.

17 Bit Software, 1st Floor Offices, 2-8 Market Street, Wakefield, West Yorkshire, WFI IDH. ☎ 0924 366982, fax 01924 200943. Catalogue 50p or free if you send an s.a.e. Accept phone orders, credit cards and direct debit. Open 8am – 8pm Mon – Thur, 9am – 5.30pm Fri – Sat.
A1200 Only PD – BJ Cowdall, 23 Barn Way, Cirencester, Gloucestershire GL7 2LY. Try to obtain all AGA PD and WB3 utils etc. Catalogue is £1 or send a disk and an s.a.e. No phone orders or credit cards. For a printed catalogue just send an s.a.e. Disks are £1 each. Frequent special offers!
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Belshaw's Computers, 55 Balderton Gate, Newark, Notts. ☎ and Fax 01636 72503. Catalogue free. Accept phone orders. Do not accept credit cards or direct debit. Open 9.30am to 5.30pm. Retail outlet, customers can call at shop.
BGPD, 6 Peter Steet, Whitehaven, Cumbria, CA28 7QB. Specialist areas: can supply any title reviewed in any Amiga magazine. The latest Assassin collections. Catalogue 50p or send a blank disk. Do not accept phone orders, credit cards or direct debit. Also many second hand (commercial) games + utilities and a PD document printing service.
Blitz BASIC PD, 39 Riding Dene, Mickley, Northumberland, NE43 7DL. Specialise in Blitz Basic created PD. Catalogue is £1.50. Open 9am – 5pm. Orders processed within 48 hrs. Also produce a diskmag for Blitz users.
Chris's PD, 22 Merryfields Avenue, Hockley, Essex, SS5 5AL. ☎ 01702 203826. Chris's PD disk catalogue 60p, 2 disk Fred Fish catalogue £1.10, both Chris's PD & Fred Fish disk catalogues £1.50 or free if you send s.a.e. with sufficient disks. Make cheques and postal orders payable to C. Waite. Open 6pm–8pm weekdays, 2pm–4pm Saturdays. All disks are virus free & error free. All disks only 69p each.
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Deck The Ripper of NFA PD, 173 Trevind Drive, Rushey Mead, Leicester LE4 7TR. ☎ 01162 661 610. NFA productions are setting up a network of PD houses across the UK in an effort to get PD to the public as cheaply as possible.
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Five-Star PD, 48 Nemesai, Amington, Tamworth, B77 4EL, U.K. ☎ 01827 68496. Specialist areas: education utilities, DTP games. Catalogue .70p + Free p&p. Do not accept phone orders, credit cards or direct debit. Open 9am 0 2pm 7 days a week. All disks 99p + free disk when buying 10 or more.
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Gothik, 7 Denmark Road, Northampton, NN1 5QR. ☎ 01604 22456. Specialist areas: Blitz BASIC 2 programming + PD. Do not accept phone orders, credit cards/direct debit. Open Sat 10am to 5pm. We were Batty's PD Club, but are now concentrating on Blitz BASIC 2 users.
Ground Zero, 4 Chandos Road, Redland, Bristol BS6 6PE. ☎ 01179 741 462.
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Paul Betteridge PD, 25 Cunningham Crescent, Bournemouth, Dorset BH11 8DN. Free catalogue.
Pathfinder PD, 41 Marion Street, Bingley, West Yorkshire, BD16 4NQ. ☎ 01274 565205. Catalogue, Free if a s.a.e. is sent. Do not accept phone orders, credit cards or direct debit. Open 9.30am – 5pm. We have our 6,000 titles in our library and also our PC shareware.
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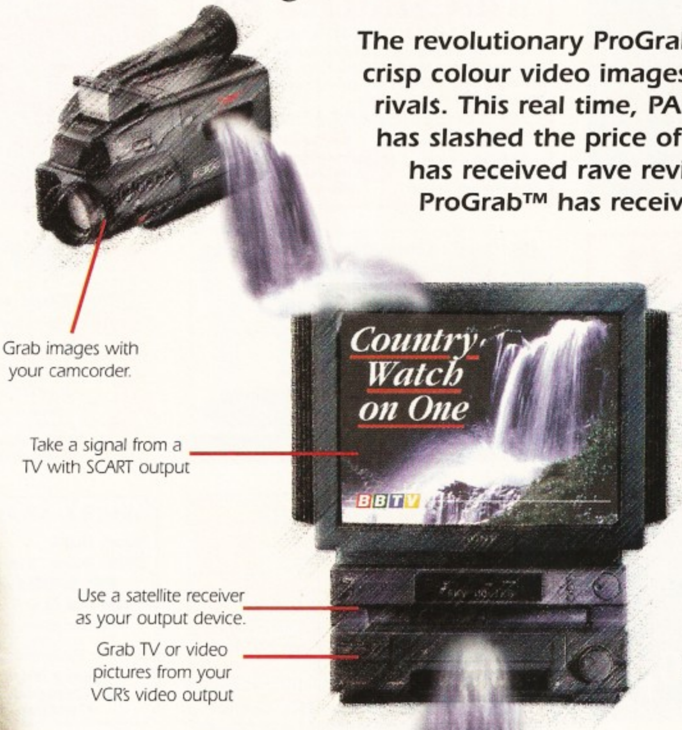
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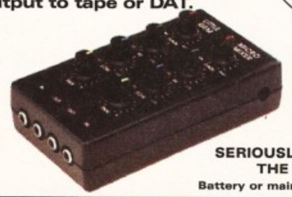
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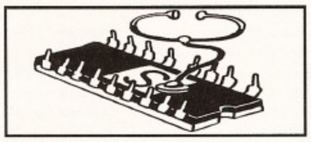
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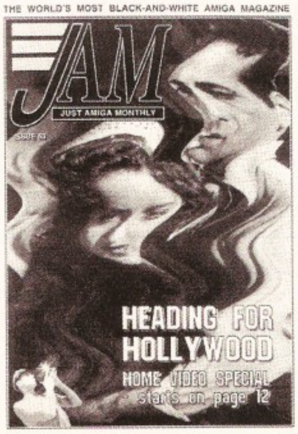
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Why not share your love for the Amiga with fellow enthusiasts? The complete Amiga Shopper User Groups listing is your at-a-glance guide to every Amiga user group in the world... probably. Get connected!

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Addlestone 1–1 Amiga Club.
Contact Peter Duckett ☎ 01932 855834
Banstead Limited Edition Software.
Contact Les, 28 Congcroft Av., Banstead, Surrey SM7 3AE.
Beccles Waveney Amiga (WAM).
Contact Andrew Rapps ☎ 01502 476 223. 77 Pinewood Gardens, North Cove, Beccles, Suffolk NR34 7PG.
Bedford Nemesis Amiga Group.
Contact Andy Melbourne, ☎ 01234 350654, 126 Mallard Hill, Bedford, MK41 7QT.
Brentwood Brentwood Computer Club
Contact Alan Holland, Sherwood House, Little Highwood Hospital, Geary Drive, Ongar Road, Brentwood, Essex. ☎ 01277 221 620.
Brentwood Hermit Computer Club.
Contact Ann Jones ☎ 01277 218 897. The Hermit, Shenfield Rd., Brentwood, Essex.
Brighton Hanover Computer Club.
Contact Colin Jones ☎ 01273 602834.
Bromley ICPUG South East.
Contact Ian Beard ☎ 01689 813 616.
Bromtard Better Than Life.
Contact Mark Waters, 7 Linton Downs, Brotard, Herefordshire HR7 4QT.
Camberley Camberley User Group.
Contact F Wellbelove ☎ 01252 871545.
Cambridge Cambridge Sixty-Eight Group.
Contact EPL Rowell ☎ 01954 210692.
Chesham Beaconsfield and District CC.
Contact Philip Lishman ☎ 01494 782 298.
Clacton Cheapo PD Club.
Contact Jason Meachen, Ivy Cottage, Chapel Road, Beaumont, Clacton, Essex CO16 0AR.
Crawley Yellow And Blue Room.
Contact Malvin Wall, ☎ 01293 534 139. Camfield, Langley Lane, Ifield, Crawley, W. Sussex RH11 0NB.
Corringham Imagine User Group
Contact Spencer Jarvis, 44 Brampton Close, Corringham, Essex SS17 7NR. ☎ 01375 670 036 (7pm–8.30pm).
Coulsdon The Crumblies.
Contact Frank Barron ☎ 0181 668 7695.
Deal Amiga Club.
Contact Wayne or John ☎ 01304 362297 or ☎ 01304 367 992, 27 Mill Hill, Deal, Kent. Meetings at St Johns Ambulance Hall, Mill Hill, Deal.
Enfield Enfield Amiga Club.
Contact Sean Clifton ☎ 0181 8042867.
Folkestone Amiga 101.
Contact D Cryer ☎ 01303 245 378.
Gerrards Cross Chic Computer Club.
Contact Steve Winter ☎ 01753 884473.
Hastings Computer Club.
Contact ☎ 01424 421480.
Horsham Amiga Zone.
Contact Gareth and Raymond, 7 Swindon Road, Horsham, W. Sussex RH12 2HE.
Ipswich Not the Night.
Contact Andrew, 8 Lanark Road, Ipswich, IP4 3EH.
Leigh-on-Sea Sensible.
Contact M Street, 158 Hadleigh Road, Leigh-on-Sea, Essex SS9 2LP.
Leigh-on-Sea The Swop Shop Club.
Contact Ian Prentice ☎ 01702 710267.
London (Woolwich) Inspira Software Club.
Contact David Cowell ☎ 0181 473 4426, 45 Sandy Hill Rd., Woolwich, London SE18 7BQ.
London (East Ham) Amigaholics Club.
Contact Kevin Bryan ☎ 0171 580 2000 Ext 240.
London (Hampstead Garden) Amiga Club.
Contact Imp ☎ 0181 455 1626.
London (Norbury) Imagine User Group.
Contact Richard Sequeira, 95 Stanford Road, Norbury, London SW16 4PP.
London (Winchmore Hill) Access Information Tech.
Contact Darren ☎ 01956 229729.
London PD for beginners.
Contact M. Macias ☎ 0171/924/5528 before 6pm. 14 Totteridge House, 15 Yelverton Road, London SW11 3QQ.
London Twilight.
Contact 13 Mavis Court, Ravens Close, London NW9 5BH.
Luton Plague Amiga Users Group.
Contact Russel Lewis ☎ 01582 484 514. 44 Moreton Rd. North, Luton LU2 9DP.
Luton Amiga Users Group.
Contact Dave ☎ 01582 481952.
Mundesley Amiga PD Exchange Group.
Contact Richard Brown ☎ 01263 720868.
Norwich AGA Exchange.
Contact K. Phillips, 18 Brownshill, Cromer, Norwich NR27 0QA.
Norwich Magic Windows.
Contact Frame, 26 St Benets Road, Stalham, Norwich NR12 9DN.
Rye Rye Amiga Group.
Contact Oliver Campion ☎ 01797 222876.
Sheringham Professional PD
Contact Jonathan Fisher, 28A Woodland Rise West, Sunway Park, Sheringham NR26 8PF. ☎ 01263 824 396.
Sittingbourne 3D Users Group
Contact Simon Phillips, 43 Harris Gardens, Murston, Sittingbourne, Kent ME10 3PW ☎ 01795 475 505.
Sittingbourne Sittingbourne Co-op Amiga Club.
Contact Andy ☎ 01795 842 608. The Bungalow, Keycol Hill, Newington, Sittingbourne, Kent ME9 8NA. BBS ☎ 0181 905 7002 (data).
Southend-on-Sea Southend Team.
Contact ☎ 01702 333974.
Sutton Agnus.
Contact Philip Worrel, 115 Brocks Drive, North Cheam, Sutton, Surrey SM3 9UW.
Thetford Bizart Diskmag.
Contact Stephen Marghan, Timberton House, The Mount, Buckenham Tofts, Thetford IP26 5HP.
Thornton Heath Amiga BASIC Club.
Contact Imran Ahmad ☎ 0181 689 9102.
Watford Hertfordshire Amiga Users Group.
Contact Keith Alexander ☎ 0181 421 1784.
West Watford AmigaSoc.
Contact Neil Cartwright ☎ 01923 248483.
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Contact Gary Bowen ☎ 01276 479615, 11 Hutton Close, Thorn-down Lane, Windlesham, Surrey GU20 6DN.
Witham Amiga Witham Users Group.
Contact K. Anderson ☎ 01376 518271.
Worthing Imagine, LightWave, Real 3D objects.
Contact Michael Moorfield, 4 St Botolphs Crt, St Botolphs Rd, Worthing, West Sussex BN11 4JH.
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Contact P. Symonds ☎ 01493 667161

Southwest

Bodmin Amiga Users Klub (Bodmin).
Contact Alan Bennett, 32 Furze Hill, Bodmin, Cornwall PL31 2ES. ☎ 01208 77501.
Bournemouth Amiga Club.
Contact P Chamberlain ☎ 01202 296714.
Bristol Avon Micro Computer Club.
Contact Roger or Bob ☎ or Fax 01179 311642.
Bristol Bristol Amiga Club.
Contact 3 Parkstone Avenue, Horfield BS7 0BX.
Bristol EmuSoft.
Contact Nalpex, 48 Longhandstones, Cadbury Heath, Bristol BS15 5AP.
Charmouth ICPUG
Contact Frank Hancock ☎ 01297 560224 (eve).
Dukinfield C. C. Swapshop.
Contact Tom Hampson ☎ 0161 339 9488.
Exeter Exeter 16-bit User Group.
Contact Andrew Deeley/Phil Treby at 25A Gloucestershire Rd, Exwick, Exeter EX4 2EF.
Reading Charlies PD.
Contact Charles Read, 10 The Cedars, Tilehurst, Reading, Berks RG3 6JW.
Redruth Ace Computer Club (ACC)
Contact Adam Scott, Tre Redan, Paynters Lane, Illogan, Redruth, Cornwall TR16 4DS.
Salisbury CHUD.
Contact Mr M Sellars ☎ 01980 33154.
Taunton HSPascal User Group
Contact T. Long, 13 Longmead Close, Taunton, Somerset TA1 4SZ.
Taunton Imagine Object Makers.
Contact Charles Mo, 16 Calder Crescent, Taunton TA1 2NH.
Torquay Ami-Info.
Contact Paul Caparn, Homeside, Higher Warberry Road, Torquay, Devon TQ1 1SF.

Midlands

Birmingham 68000 in Birmingham.
Contact Mike Bedford-White, 16 Westfield Rd., Acocks Green, Birmingham B27 7TL.
Birmingham Software Exchange Service.
Contact Michael Pun ☎ 0121 459 7576.
Coventry Coventry and Warks Commodore Computer Club.
Contact Will Light ☎ 01203 413511.
Derby Living Poets Society. Publication.
Contact Sean Woodward. Fido 2:2503/104; 11 Menin Road, Allestree, Derby DE22 2NL.
Hereford Hereford Amiga Group Help.
Contact John Macdonald ☎ 01981 21414.
Leicester NFA.
Contact Deck Goodwin ☎ 01162 661 610. 173 Trevino Drive, Rushey Mead, Leicester.
Loughborough Leicestershire Amiga Users,
Contact Daz or Eddy ☎ 01162 375 147 or 01509 267 198. PO Box 10, Mountsorrel, Loughborough LE12 7ZZ.
Loughborough BR & CJ Computer Club.
Contact B Robinson ☎ 01392 72889 or ☎ 013922 841296.
Melton Mowbray Melton Amiga Users.
Contact Stephen Mowbray ☎ 01664 63421.
Nottingham Robin Hood Amiga Users.
Contact Kristian Denman ☎ 01777 838 248. 2 Beech Walk, Elkesley, Nr Retford, Notts DN22 8BB.
Nottingham East Midlands Amiga User Group.
Contact Richard Haythorn ☎ 01159 298075.
Solihull Deluxe Cheats Disk User Group.
Contact Steven Frew, 96 Campden Green, Solihull, West Midlands B92 8HG.
Solihull Sid The Kid Amiga.
Contact Sid Reeves ☎ 0121 705 8619.
Solihull Solihull Computer Users Group.
Contact Rich or Lee, 41 Leafield Road, Solihull, West Midlands B92 8NZ.
Stevenage ICPUG
Contact Brian Grainger ☎ 01438 727 925 (eve.).
Stoke-on-Trent The Amiga Studio.
Contact Dave Rose ☎ 01782 815 589, 25 Zodiac Drive, Chell, Stoke-on-Trent, Staffordshire, Midlands ST6 6NJ
Stoke-on-Trent ANDY PD.
Contact Andrew Shufflebotham ☎ 01782 775014, 2 Sussex Drive, Kidsgrove, Stoke on Trent, Staffs ST7 1HG.
Telford Shropshire Amiga Link.
Contact N Cockayne ☎ 01952 591376.
Telford West Midlands Amiga Club.
Contact Kevin Genner, Telford Snooker Centre, Canongate, Oakengates, Telford, Shropshire.

Northeast

Balby Warpdrive.
Contact B Scales ☎ 01302 859715.
Barnard Castle Amiga Users' Club.
Contact Paul Kellett, 67 Green Lane, Barnard Castle, County Durham DL12 8LF.
Barnsley Access Amiga User Club.
Contact Mark Grimshaw, 20 Lilydene Avenue, Grimethorpe, Barnsley, South Yorkshire S72 7AA.
Barnsley Amiga Programmers' User Group.
Contact Andrew Postill, 2 Selby Road, Newlodge, Barnsley, South Yorkshire S71 1TA.
Catterick Champion PD Club.
Contact Steve Pickett, 31 Somerset Close, Catterick, N Yorkshire DL9 3HE.
Chester-le-Street Chester-le-Street 16-Bit Comp. Club.
Contact Peter Mears ☎ 0191 385 2939.
Darlington Darlington Commodore Users Club.
Contact Steve Wheatley, 1 Ruby St, Darlington, Co Durham DL3 0EN.
Darlington Jemsoft North East Amiga Users.
Contact Daniel Wood, 3 Cavendish Drive, Northlands, Darlington, Co Durham DL1 2GQ.
Darlington National Amiga Users Group.
Contact Membership Secretary, PO Box 151, Darlington, County Durham DL3 8YT. ☎ 01325 352260.
Durham The Amiga Club.
Contact G Starling, 31 Pine Lea, Brandon, Durham DH7 8SR.
Harrogate Club 68000
Contact Chris Hughes ☎ 01423 891910.
Houghton-le-Spring Club Amiga.
Contact Chris Longley, 5 Bowes Lea, Shiney Row, Houghton Le Spring, Tyne And Wear.
Keighley Pennine Amiga Club.
Contact Neville Armstrong ☎ 01535 609263.
Mickley Nothing But AMOS Disk Magazine.
Contact Neil Wright ☎ 01661 842292.
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Contact N Richards ☎ 01709 526092.
Sheffield Steel PD.
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Spalding TDM.
Contact Gedney Marsh, Spalding, Lincolnshire.
Stocksfield Blitz User Group.
Contact Neil Wright, 39 Riding Dene, Mickley Square, Stocksfield, Northumberland NE43 7DL.
Sunderland '94 Amiga Club
Contact Peter Hudson, 30 Rockingham Rd., Redhouse, Sunderland, Tyne & Wear SR5 5HU. ☎ 0191 549 1458.
Sunderland Blitter.
Contact Philip Kruman, 213 Fordfield Rd, Sunderland SR4 0HF.
Sutton-on-Sea Aden PD Club.
Contact Den Rounding, 8 Primrose Lane, Miami Beach, Trusthorpe Road, Sutton-On-Sea, Lincs LN12 2J2.
Tunstall Amiga Studio.
Contact Dave Rose ☎ 01782 815589.
Washington Mainly Amiga.
Contact Ray Scott ☎ 416 9189.
Whitby WAC (Whitby AMOS Club).
Contact Paul Gumsley ☎ 01947 604 840, 5 Lockton Road, Whitby, North Yorkshire YO24 3NB.

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Contact Scotty ☎ 01254 399 229. 12 Lancaster Drive, Clayton-Le-Moors, Accrington, Lancs. BB5 5RD.
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Contact D. Latham ☎ 01625 615 379, Fax: 01625 429 667. Grantham House, Macclesfield, Cheshire SK10 8NP.
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Rhyl Clwyd Shield Soft PD.
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Clwyd Solo (Amiga).
Contact Mike, 26 Doren Avenue, Rhyl, Clwyd LU8 4LE. ☎ 01745 343044.
Neath Amiga Navigation.
Contact Dave Thomas 4a, Allister St, Neath, W Glamorgan.
Powys Blue Bedlam.
Contact Michael Grant ☎ 01873 811791.

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Bathgate Lothian Amiga Users Group.
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Contact Derek Scott ☎ 01620 823137, (Sat. 1–4pm). Bridge Centre, Poldrate, Haddington, East Lothian, Scotland.
Edinburgh Amiga Club.
Contact Jim Gifford ☎ 0131 658 1244, 30 Moredunvale View, Edinburgh EH17 7JT.
Edinburgh Edinburgh Amiga Club.
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Edinburgh Edinburgh Amiga Group.
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Glasgow Amiga Helpline.
Contact Gordon Keenan, Amiga Helpline, 6 Skirsa Square, Glasgow G23.
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Inverness Highland PD.
Contact David Paulin ☎ 01463 242431.
Johnstone Using AMOS.
Contact Colin McAllister ☎ 01505 331342.
Perth Perth and District Amateur Computer Soc.
Contact Alastair MacPherson, 137 Glasgow Rd, Perth.
Redburn Redburn Computer Users Group.
Contact Ruby Anderson ☎ 01294 313624.
W. Lothian Amiga Computer User Club.
Contact Alistair Lyons, 18 Braehead, Bo'ness, W. Lothian, Scotland EH51 9DN.

N Ireland

N Ireland N. Ireland Amiga User.
Contact Stephen Hamer, 98 Crebilly Rd, Ballymena, Co Antrim BT42 4DS.
N Ireland Digital Intensity (diskmag).
Contact Simon Denvir, 40 Old Cave Hill Rd, Belfast BT15 5GT.

Special interests

Angus Amiga Musicians Club.
Contact Gavin Wylie, Guthrie Street, Carnoustie, Angus.
Basingstoke AMOS Programmers Exchange.
Contact J Lanng, 7 Majestic Rd, Hatch Warren, Basingstoke, Hants RG22 4XD.
Braunston Fen Amiga Boatowners.
Contact D Beet Lock, Branston Fen, Lincolnshire LN3 5UN.
Braunston Nr Daventry GFA Basic Forum.
Contact J Findlay ☎ 01788 891197.
Braunston Nr Daventry Amiga E Support Group.
Contact John Findlay ☎ 01788 891197.
Broadstairs AMOS Programmer Club.
Contact Gareth Downes-Powell, 6 Brassey Avenue, Broadstairs, Kent CT10 2DS.
Bury St Ed-munds Amiga Sports Fans.
Contact Jamie Last, York House, Church Road, Elmswell, Bury St Edmunds, Suffolk IP30 9DY.
Chelmsford ICPUG
Contact David Elliott ☎ 01245 328 737.
Corringham Imagine User Group
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Dewsbury Ethos BBS.
Contact Steve Bell ☎ 01924 437258, 909 Leeds Rd., Chidswell, Dewsbury, West Yorkshire.
Durham Under 18 PD User Group (JB's PD).
Contact J Blackburn, Longridge, Potters Bank, Durham DH1 3RR.
Glasgow 24-Bit Club.
Contact Gordon Keenan, 24-Bit Club, 6 Skirsa Square, Floor 1, Glasgow.
Haddington Heart of Lothian BBS
Contact Andrew Dowds ☎ 01620 826111/6004.
Highfields CDTV User Group.
Contact Gary Ogden, ☎ 01785 227059.
Huddersfield Third Dimension -3D Construction Kit Users.
Contact Tony Hartley ☎ 01484 460888, 19 Kipling Close, Lockwood, Huddersfield, West Yorkshire MD4 5HA.
Isle of White Interactive Design
Contact David Pettifer/Matt Parsons ☎ 01983 867377 after 5pm. 22 Brook Rd., Shanklin, Isle of White PO37 7LU.
Lingfield In Touch Amiga.
Contact P. Allen, ☎ 01342 835530, PO Box 21, Lingfield, Surrey RH7 6YJ.
London (Richmond) Micro Academy.
Contact Don Pavey ☎ 0181 878 1075.
London ICPUG.
Contact the Membership Secretary. Fax 0181 651 3428. ☎ 0181 651 5436
Lothian ICPUG.
Contact David Hope ☎ 01555 811 955.
Macclesfield ICPUG.
Contact Peter Richardson ☎ 01298 23644.
Maidenhead ICPUG.
Contact Mike Hatt ☎ 01753 645 728 (8pm–10pm).
Manchester CDTV Users Club.
Contact Julian Lavanini, 113 Fouracres Rd, Newall Green, Manchester M23 8ES.
New Whittington Digital Music Club.
Contact Roger Hunt ☎ 01246 454280.
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Contact Mark Blackall ☎ 01924 892106.
Rochford Ray Tracers.
Contact Neil Hallam, 12 Meesons Mead, Rochford, Essex SS4 1RN.
Romford Phoenix Demo.
Contact Frank ☎ 0181 597 4661.
Rotherham Marksman (Trojan Phazer).
Contact David Green, 67 Thicket Drive, Maltby, Rotherham, S. Yorkshire S66 7LB.
Scotland Quadrant BBS
Contact Chris Bruce (Sparky) ☎ 01289 331822.
Solent ICPUG.
Contact Anthony Dimmer ☎ 01705 254969.
Swindon Amiga Video Producers' Group.
Contact J Strutton ☎ 01793 870667 (–9pm).
Swindon MUG – MED Users Group.
Contact Richard Bannister, 6 Glevum Rd, Stratton St Margaret, Swindon SN3 4AF.
Taunton HSPascal User Group
Contact T. Long, 13 Longmead Close, Taunton, Somerset TA1 4SZ.
Wallington Bible Bureau.
Contact AD ☎ 0181 669 7485.
Ware Gamer-Link.
Contact Stu, 28 Churchfield, Ware, SG12 0EP.
Witham Video Visuals.
Contact Chris Brown, 4 Lavender Close, Witham, Essex CM8 2YG.
Workington AMOS Programmers Group.
Contact John Mullen at 62 Lonsdale St, Workington, Cumbria CA14 2YD.
Worlingham Sliver BBS
Online all cheap rates.
Contact Mat Tillet ☎ 01502 714 663, 27. Hillside Avenue, Worlingham, Beccles NR34 7AJ.

Overseas

Australia Southern Suburbs Commodore Users Group.
Contact Steve Perry, P. O. Box 217, Beverley Hills 2209, Sydney, N. S. W. Australia.
Australia Amiga Users Group of Western Australia.
Contact Bill Sharpe-Smith, PO Box 595, Cloverdale WA 6105, Australia.
Australia Comp-U-Pal.
Contact Comp-U-Pal, 116 Macarthur Street, Sale, Victoria 3850, Australia.
Belgium AUGFL vzw.
Contact Lieven Lema, Meesberg 13, 3220 Holsbeek, Belgium.
Cape Town ICPUG
Contact Ken Turner ☎ +507 5131. Internet: kturner@aztec.co.za. 24 Du Plessis Avenue, Edgemead, 7441, Cape Town, S. Africa.
Denmark Danish AMOS User Group.
Contact Tom Poulsen, DABG, Postbox 127, 2640 Hedehusene, DK Denmark.
France Interceptor (Public Domain Software).
Contact Interceptor, 13 Avenue Jean Jaures, 73000 Chambery, France.
France 16-32 Micro.
Contact F Moreau, 132 Rue Jean Follain, 50000 Saint-Lo, France ☎ 315220 02.
France Maritime Amiga Club.
Contact CDR K Osei, GN Ships Refit Office, 51 Rue de la Bretonniere, 50105 Cherbourg, France. ☎ 33 33225447.
Germany Royal Air Force Amiga Club.
Contact Stan Young, HMF RAF Laarbruch, BFPO 43.
Germany Worldwide PD Club.
Contact Dave White, Berliner Strasse 39, 40880 Ratingen, Germany ☎ 02102 499729 (Germany).
Greece Amiga Pros User Group (member GAC)
Contact Stefanos Siopoulo ☎ 01 9349963. 52 Silvrias Str, N. Smyrni 171 23, Athens, Greece.
Greece Amiga Athens Club.
Contact Stefanos Papamichael, 9 Derfeld Rd, Patisia, 11144 Athens, Greece ☎ 01/2027973.
India Indian Amiga Friends.
Contact Bilal, 46 Paragon 405 Lokhandwaza Complex, Andheri (W), Bombay-400058.
Iran Palapal
Contact Paymddn Jafari, PO Box 17845–343, Teheran, Iran, or, No. 26, 32 St., Moslem St., Abouzar Blvd., Pirouzi St., Teheran, Iran. ☎ (Iran) 021 315 3445.
Ireland Amiga Addicts.
Contact A Minnock, Clonkelly, Binn, Co Offaly, Ireland (send s.a.e.).
Ireland AMOS Users.
Contact Brian Bell, 8 Magnolia Park, Dunmurry, Belfast BT17 0DS.
Ireland City Centre Amiga Group.
Contact Patrick Chapman, 70 Ballygall Crescent, Finglas East, Dublin II, Ireland, ☎ 345035.
Ireland Commodore Users Group of Ireland.
Contact Geoffrey Reeves, c/o St Andrew's College, Booter-stown Avenue, Blackrock, Co Dublin. ☎ +353 1 288 3863.
Ireland Navan Computer Club.
Contact Mark Arnold, Cannistown, Navan, Co Meath, Eire ☎ 046 21078.
Ireland Northside Amiga Group.
Contact William Kelling, 10/A Rainsford Avenue, Dublin 8, Ireland ☎ 01 532 807.
Ireland Software Exchange Club.
Contact Michael Lacey, Fern's Post Office, Enniscorthy, Co. Wexford, Republic of Ireland.
Italy Amiga Expert Team / Uniware
Contact Mirko Lalli, Via Vecchia Aretina 64, I-52020 Montalto, Pergine Valdarno (Arezzo), Italy. ☎ +39 575 899 798 (for Fax, voice request).
Italy Amiga Jewels
Contact PO Box 6, 57027, San Vincenzo, Italy.
Malta HTS (Malta).
Contact K Cassar, Block 1 Flat, 6 H E Hal-Tmiem, Zejtun ZTN07 Malta ☎ 674023.
Malta Malta Amiga Club.
Contact Zappor, PO Box 39, St Julians, Malta. ☎ 440453
Norway '94 Amiga Club Norway
Contact Mats Lindh, Elvensveien 22, N-1666 Rolsvoey, Norway.
Portugal Centro Amiga/Via Lactea BBS.
Contact Rui Costa, 351 01 888 2245/49, Largo do Martim Moniz-C,C, Mouraria, 1 loja 408-1100 Lisbon, Portugal.
Portugal Software Asylum.
Contact Sid Sanches, Portugal ☎ 062 831566. Apartado 6156, 3000 Coimbra, Portugal.
Singapore Singapore Sling.
Contact Eric Chai ML, Block 4 #14-413, Pandan Valley, Singapore 2159, ☎ 65 4680630.
South Africa Amiga Users Exchange (AUX).
Contact Ken Turner, 24 Du Plessis Avenue, Edgemead, 7441 Cape Town, S. Africa. Internet: kturner@aztec.co.za.
Spain Amiga Aga Exchange (España).
Contact S I Steele, Calle Ribadavia, 16-8-1, Madrid, Espana 28029. In English only please.
Sweden Bitnet Amiga Group
Contact Per Forslund, Kumla Alle 16, S-135 53, Tyresö, Sweden. ☎ +46 (0) 8 798 9793.
Sweden Amiga UserGroup Sweden
Contact Krister Larsson, Sjönäs 6719, 546 92 Mölltorp, E-mail: krilar.augss@mn.medstroms.se BBS: +46 (0) 505 30965. ☎ +46 (0) 505 30835.
Sweden 32-bit Ware.
Contact 32-bit Ware, Ekorrstigen 10, 147 63 Tumba, Sweden
Switzerland Amiga User Group Switzerland.
Contact AUGS ☎ ++41 34 45 3078. Bahnhofstr. 7, CH-3426 Aefligen, Switzerland. BBS: +41 (0) 62 44 32 27.
USA Japan Amiga Group.
Contact : Rick Gardaya, PSC 78, Box 3876, APO AP 96326 USA. ■

It is Amiga Shopper's aim to list every Amiga user group in the world on these pages, so if your group is missing, please fill in and send the form below to:

User Groups, Amiga Shopper, 30 Monmouth Street, Bath BA1 2BW.

Shopper User groups — AS51

Group Name: ....
Contact Name: ....
....
Contact Tel: ....
Contact Address: ....
....
Postcode ....

Please Tick:

- ☐ Southeast and East
- ☐ Southwest
- ☐ Midlands
- ☐ Northeast
- ☐ North West
- ☐ Scotland
- ☐ Wales
- ☐ Special Interests
- ☐ N Ireland
- ☐ Overseas
- ☐ **New Entry**
- ☐ **Updated Entry**

Talking Shop

This month in Talking Shop: A touch of pessimism; my dream Amiga; more about modems; and the Larry Hickmott appreciation society.

Now Escom has bought Commodore International, we can all take the opportunity to tell them what we would like them to do next with our Amigas. Write in and we'll print as many letters as we can in Talking Shop. I will make sure that we send Escom a copy of Amiga Shopper every month, so they can find out what Amiga users want.

Shocked and surprised

£25 Winner

Yesterday, I phoned the Commodore UK news line, I was shocked to hear that the UK management group has had to give up due to Escom. Undoubtedly, Escom will purchase Commodore and the Amiga. Escom have not said that they will continue production of our beloved computer; in fact they have not said *much* at all, except that they are very interested in a set-top box.

With these facts in mind, it doesn't take Einstein to work out that Escom will use the Amiga technology for their own purposes. So after 10 years, this is the end of the Amiga. I will keep my A1200 for as long as possible, but it won't be long before it is obsolete. There is only one hope – CEI must outbid Escom. At least, with CEI we know that they are willing to put the Amiga back into production. To be frank, it is unlikely that CEI will outbid Escom, so what does the Amiga community and the Commodore UK team do?

There are a few options open to us:

1. David Pleasance can create a new home computer manufacturer. This company would have to spend the next few years designing a new home computer to fit in where the Amiga was. He would have to get financial support. How about Commodore UK's unknown backer – they are said to have deep pockets.

He needs some gurus to design the new machine, this shouldn't be too hard. Lew Eggebrecht, Dave Haynie and the Commodore design team are all enthusiastic about the Amiga. They would have to design a machine that would be very similar to the new RISC machines, but with the Commodore design team that shouldn't be too hard. After the new computer has been finished, mailshots should be issued to past Amiga owners, telling them that this is the replacement.

Even if you do not print this letter, could you please pass the idea over to Mr Pleasance.

Andrew Markwell,
Wallsend, Tyne & Wear

(See the answer to the next letter.)

Bits and pieces

Could you please do a review of the CD-Write product featured on page 66 of the May issue of Amiga Shopper. It sounds pretty amazing. I could certainly do with 600Mb to arrange as I wish.

Glyn Curtis,
Weston-super-Mare, Avon

We have a copy of CD-Write in the AS office because we thought it looked pretty interesting too. We will review it when we've had a chance to try it out (and if it's any good).

In answer to a call for help from Julie Brandon for a three-button mouse for an Amiga (Issue 49), I have an Optical three-button mouse from Golden Image which I bought a few years ago, if that's any help. If anyone could tell me what the third button is actually used for, I would be grateful.

Ian McVickers,
Denny, Stirlingshire, Scotland

I have been using my Alfa Data mouse for three years now without once having to de-fluff the roller – it hasn't got one. The mouse is wonderful and nobody takes the mat away for standing plates on, sitting on, or using as a rest for crayoning since its reflective solidness only allows one purpose.

Until I purchased Brilliance, the middle button was, I admit, redundant, but, blimey, what a difference it makes to using a paint package. I now find hitting F10 when using DPaint so frustrating that unless I need to use the Symmetry tool or perspective mode, I always use Brilliance.

As I recline in my chair with mouse and mat on my lap happily clicking the middle button, I frequently feel sorry for those without, who have to hunch over the keyboard to toggle on/off the tool bar. If only other software writers could include it.

I am surprised that nobody has heard of this mouse in your office, since it was regularly advertised in Amiga Shopper and, if I remember correctly, was featured in a product comparison test. Anyway, I would recommend it to anyone for use, except in bright sunlight when it tends to stop.

Terry Randell,
Sidcup, Kent

These are just two of the letters we received from readers indignant that we had never heard of a three-button mouse!

Competition winner

Z5 Competition

The winner of the Z5 system from Amiga Shopper 47 is Diane Copland from Edinburgh, Scotland who was the first name out of the hat (actually it was a battered old envelope, but we do try to do things in style). Congratulations, Diane!

Messy business

I just thought I'd write to express my sadness at the total mess that the Amiga now appears to be in. Things might be OK if Mr Pleasance can work with Escom to produce something new, but surely we are talking about a further delay in production. I am most unhappy with the Bahamian law courts for allowing this whole thing to have been such a mess and have taken so long. To have a company behind us that does not want us, or want to do anything with us, is akin to having no company at all.

I think now would be a good time for you to express to your readers your commitment to the Amiga users and give us something to hold on to.

Here is what I would like to see in the next breed of Amigas:

- New graphics chips, giving 24-bit graphics in all screen modes
- New 16-bit, 8-channel sound
- Hard drive as standard
- Virtual memory built into the OS
- New print system (so I don't have to wait 30 minutes per page)
- Ability to use Type l or TrueType fonts
- Compatibility with some PC hardware (mice, keyboards, sound cards, etc.)

Matt Sergeant,
E-mail

I think you are both being a little too pessimistic here, because Escom's Bernard van Tienen has said that they have already signed up a factory in China to manufacture Amigas and that finished machines will be back on the shelves in approximately three months time (just in time for Christmas). Hurrah!

He also said that Escom will continue the development of new Amigas, with an Amiga-based Power PC amongst the ideas. Escom are also talking to David Pleasance and co about their involvement. See our news pages this issue (page 12) for the latest update on the whole situation.

Of course Amiga Shopper is 100 per cent committed to Amiga users and we will be on the newsstands for as long as the Amiga exists!

Subjects of interest

The Amiga at work

£25 Winner

We want to feature a series of articles about people actually using an Amiga for their work. Anyone who produces music, graphics, etc. on the Amiga for commercial use, please write in to Talking Shop.

You could find yourself in the next issue of Amiga Shopper!

And remember that the star letter of the month gets £25.

Modem mania

I just read your Amiga Shopper report on modems (AS48) and found it good.

But you can get US Robotics V34 Courier modems for approx $400 (plus packaging) in the US or, if you sign the SySop package deal with US Robotics (where you basically advertise for them), you can get them for approx $300. Just thought I would give you my experiences, as I'm buying three or four V34 Courier modems soon.

I also heard from our computer specialist in Dallas that they recommend Practical Peripheral modems, because the US Robotics have problems connecting to other non-US Robotics modems.

Rob Humberstone,
Texas Instruments, France

Thanks for your advice, Rob!

Larry's fan

My main interest in computing is in DTP, although this is only a hobby, I have managed to produce a couple of marketable items. Bearing this in mind, I would like to see you interview a chap called Larry Hickmott. I know he used to be on the editing team of JAM, but now runs his own publishing company under the name of LH Publishing, which is based at Milton Keynes.

He has written several good books (in my opinion) on using the Amiga computer for DTP work, as well as other printing-related tomes. I know he use A1200s for most of his work, (and is most adamant that it's not necessary to have A4000s to produce a good publication).

Within the last six months he has started his own magazine called EM, which just about covers all things DTP, which, once again, is set out using his trusty 1200.

It would be interesting to find out why he chose the Amiga as a publishing platform, rather than the competition. Also, what his future plans may be and what he thinks about the Amiga's future. I know he may not be considered an industry figure, but there are plenty of hopeful publishers out there and maybe an article about a fellow enthusiast might help some of them.

Alan Martin,
London

If you turn to page 22 you will find that Larry Hickmott has put together our huge Supertest on InkJet printers this month and he has already started on a scanners Supertest for our next issue. He will be appearing regularly in Amiga Shopper and has already joined our panel of experts for Amiga Answers to answer all your questions that are DTP or word processing-related. I am sure he will be expressing his own opinions about the Amiga and the industry in his features and reviews he writes for us.

Dream machine

First, I would like to start by saying what a great improvement Amiga Shopper has undergone since its facelift.

Anyway, you said "what machine would you like Commodore to produce next?" Well, I have a few suggestions for my dream Amiga.

I am a very big fan of ray-tracing and so I would love to have a machine that has some punch, so a faster processor would be a big advantage – something around 60Mhz. (I hate waiting for my unexpanded A1200 to render objects.) Commodore should still keep the independent chip set-up (as in separate sound, graphics and the other custom chips).

Next, we should take a look at the design of the new Amiga – something like the PowerStation from Hi-Q, but ditch the keyboard, though, and slap on a keyboard from something from a Viglin machine. As part of the sales package, I think the system should have a 210Mb SCSI-2 hard drive as standard.

Right, back to the chips and the main motherboard. Commodore should try to make it as cheap as possible to upgrade the main CPU as and when one becomes available – as an idea, part exchange new chip for an old one. It would be nice if Commodore could produce a graphics chip that could handle 16.8 million colours at super hi-res. I think that it is time for a change in the sound department and so 16-bit isn't too much to ask for, is it? A high-density disk drive wouldn't go amiss. Er...erm.. what else? Oh yeah, I would like to see a few expansion ports; not one, not three, but six – all operating on 20Mhz, all arranged horizontally.

Imagine you've just bought a new accelerator for your new machine – three months later a new and faster accelerator is released (doesn't that grind your gears?), so a way round this is to make it possible to plug in a small PCB with the new processor/FPU into the existing one, overriding the slower chips.

Basically, make a machine that would make Intel cry and kick arse on their

Can you do better? | Caption competition

£25 winner!

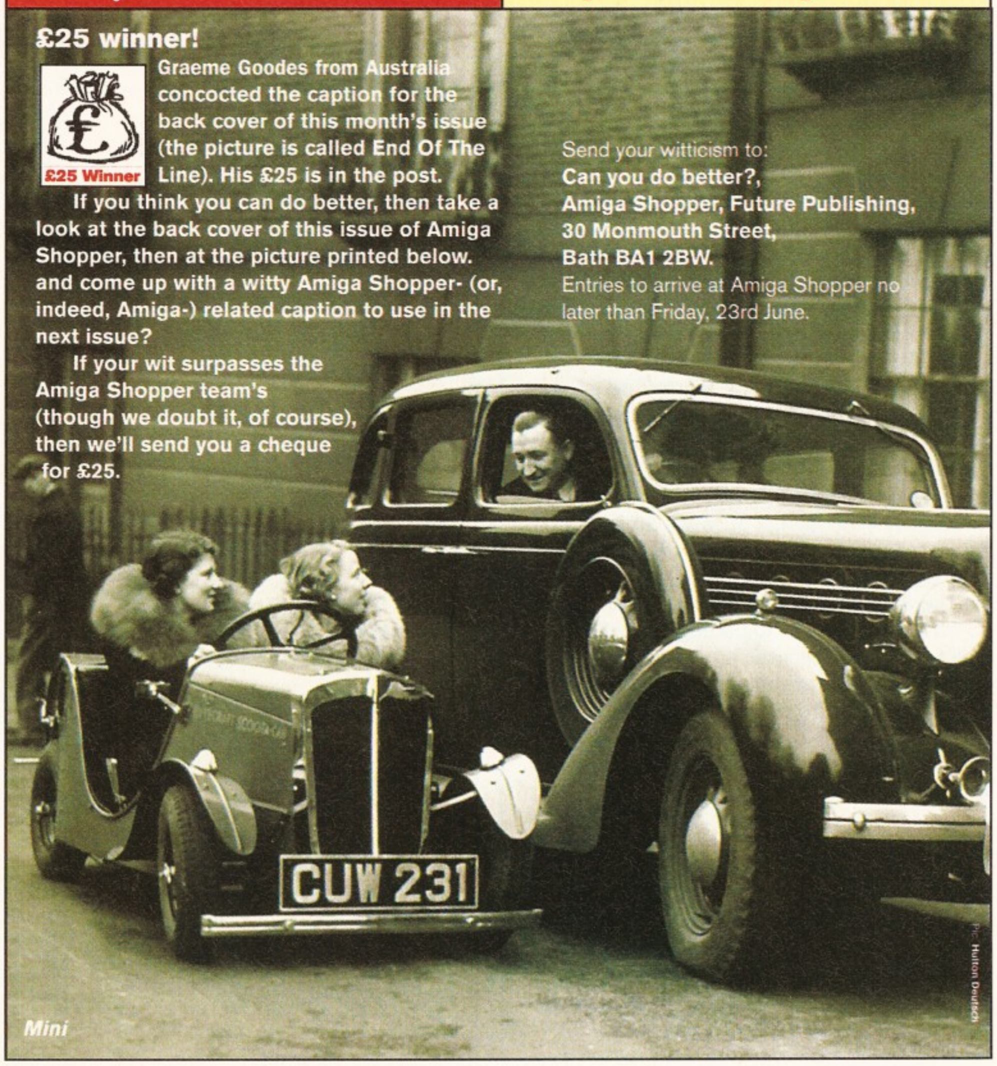
£25 Winner

Graeme Goodes from Australia concocted the caption for the back cover of this month's issue (the picture is called End Of The Line). His £25 is in the post.

If you think you can do better, then take a look at the back cover of this issue of Amiga Shopper, then at the picture printed below. and come up with a witty Amiga Shopper- (or, indeed, Amiga-) related caption to use in the next issue?

If your wit surpasses the Amiga Shopper team's (though we doubt it, of course), then we'll send you a cheque for £25.

Send your witticism to:
Can you do better?,
Amiga Shopper, Future Publishing,
30 Monmouth Street,
Bath BA1 2BW.
Entries to arrive at Amiga Shopper no later than Friday, 23rd June.



Mini

Pic: Hulton Deutsch

Write to Talking Shop

To add your contribution to any of the debates going on on the Talking Shop pages, send your letters to:

Talking Shop,
Amiga Shopper,
Future Publishing,
30 Monmouth Street,
Bath BA1 2BW.

Alternatively, you can E-mail your letters to:
amshop@futurenet.co.uk (Internet)

All letters received at these addresses will be considered for publication, unless you specifically advise us otherwise.

soon-to-be-released P6 – especially in the graphics area and costs.

Jonathan Witts,
Letchworth, Herts

As I said in a previous answer, Escom have many new ideas for the development of the Amiga, including a Power PC version. They will be holding a press conference shortly to explain their position and future plans.(This may have already taken place by the time you read this).

(The new PowerStation from Hi-Q is reviewed on page 47 by the way.)

Disk blues

Whilst I go along in part with your answer to Ed Freeman in AS48, that the price of the new-style Amiga Shopper at £3.95 is fair, considering the improvements, i.e. paper quality, full colour, increased number of pages etc. I disagree when the Coverdisks are used in the same argument.

If, like me, you own the humble A500 with Workbench 1.3.2 Rev 34.28, you will be paying for Coverdisks that you cannot use, even though I have upgraded to 2Mb of memory. Coverdisk 1, Issue 48, is just such a disk which requires Workbench 2 or above, as well as 2Mb. Since I buy Amiga Shopper, Amiga Format, Amiga Computing and CU Amiga monthly, the disks mount up.

I sent for Amiga Shopper back issue no 27, which covered upgrading an A500 to A1200 level, but the issue is no longer available. Is there anywhere else that I can get this information from? Can I upgrade my Workbench 1.3.2? The disks that came with this computer were Workbench 1.3.2 Rev 34.28 and extras 1.3/ Basic 1.2.

Gordon C Tickner,
Basingstoke

We always try our best to put programs on the Coverdisk that as many people as possible can use. However, we can't please everybody all of the time. We do try to cater for A500 owners, but as our recent Reader Survey results showed that the vast majority (75 per cent) of our readers own A1200s and 75 per cent have Workbench 3.0 or 3.1, they do tend to be our priority audience. However, I do understand your frustration and we will attempt to remedy the situation where possible.

Unfortunately, issue 27 is now sold out, but you could find out if Bruce Smith books have published anything to help you upgrade your A500. Call them on ☎ 01923 894355.

Workbench 3.1 is available for the A500 from Village Tronic in Germany. Give them a call on ☎ +49/(0) 5066/7013-0.

Blind hedgehogs

Are there any companies that make cases for Amigas, such as my 3000, which come in that rather intimidating "I-run-at-Xmillion-MIPS-and-there's-nothing-you-can-do-about-it" Silicon Graphics grey, or, failing that, is there someone out there who has managed to paint his or her Amiga and not make it look like the frustrated, disappointing efforts of a collection of blind hedgehogs in a bag. If so – who, where, when, why and how much did it cost?

The reason for all this is, I need a way to make my machine look just as scary as the SGI Indigo that the man next door has got. Somehow the 1989 grey 'n' beige colour scheme fails to impress him, can't think why...

AKA. Someone who saw Nick Veitch in a pub in Bath, but didn't shout "Hello Nick me ol' mucker!" in case it wasn't him. He was drinking Guinness, though.

P.S. Serious comment time: Now that the Amiga is waking up after a near-death experience, what is the chance that it will be scuppered by the software pirates? They're still out there, mind you. Someone on the Internet Relay Chat channel ()amiga offered to DCC (send) me a copy of Wordworth 3.1... ironic, don't you think?

Andrew McIntosh,
Swansea, Wales

It may be possible to use the Z7 case from Ramiga. Give them a call on ☎ 01690 770304.

It probably was Nick Veitch you saw if he was drinking Guinness. He was single-handedly responsible for the Guinness drought experienced in Bath last month. We had to promise the local hostelries that we would lock him in the back room for a while, so other people could get a look in!

Pirates are only successful because people buy the pirated goods. If nobody bought pirated software, then the problem wouldn't exist and the future of the Amiga (and all the other computers/consoles that suffer from piracy) would be secure.

So don't be tempted! ■

Advertisers' index

The **essential** magazine for Amiga enthusiasts

AMIGA SHOPPER

Next **month**

Commodore: what happens next?

Now Escom are the new owners of Commodore International, the question on everyone's lips is "What happens now?". Well, Escom have promised that Amigas will be back on the shelves very soon, but what plans do they have for developing and producing new machines? And how *exactly* will Commodore UK be involved? Next month we hope to talk to Escom and discover what their plans for the immediate future of the Amiga are. We will also ask some important industry figures what they would like to see happen to their favourite computer.

Interview

Our US correspondent, R Shamms Mortier, talks to the people at Scala and asks them what they have lined up for the future of the Amiga.

Tutorials

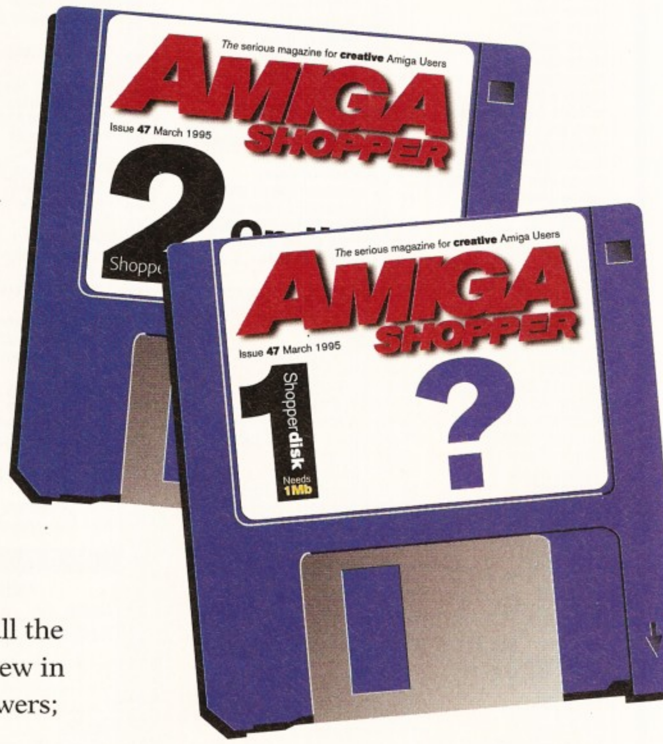
In part five of Graeme Sandiford's Photogenics tutorial he looks at image composition. Also, don't forget our Comms and DICE tutorials. And it's the penultimate part of Assembler.

Supertest: scanners

Next month in our Supertest we take a look at the state-of-the-art in scanners. Amiga Shopper's DTP and word processing expert Larry Hickmott tells you how they work, which type of scanner would be right for different areas of work and which ones are the most competitively priced. If you're looking to buy a new scanner, then you can't afford to miss Amiga Shopper's definitive buyers' guide.

Coverdisks

We are searching through oodles of Amiga software as we speak to find you the best quality programs to put on our two Coverdisks. You can rest assured that whatever you find attached to the front of your magazine next month, it will be worth the wait.



PLUS!

Pages and pages of reviews of all the latest Amiga products; what's new in the Public Domain; Amiga Answers; and ***loads*** more.

August issue **52.** On sale Tuesday, **27th June.**